THE physical therapy REVIEW

34th Annual Conference
American Physical Therapy Association
Hotel Statler Detroit, Michigan
June 23-28, 1957

Principles of Underwater Exercise — KOLB

Physical Therapy in Denmark — HETMAN

Principles of Record Keeping — CARLIN

The Shoulder Girdle in the Chronic Respirator Patient — NEU and DINNEL

Case Report — SHORT

Suggestions from the Field — WINSLOW

CONFERENCE ISSUE

Volume 37, Number 6 **June 1957**

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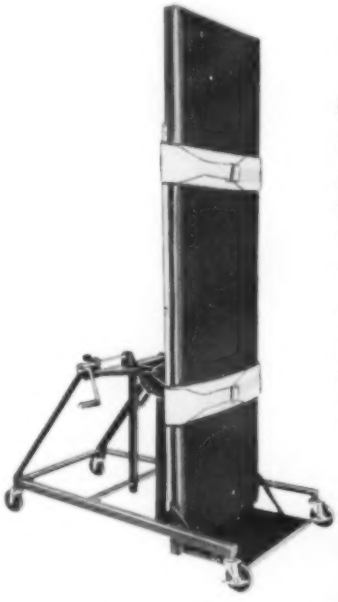

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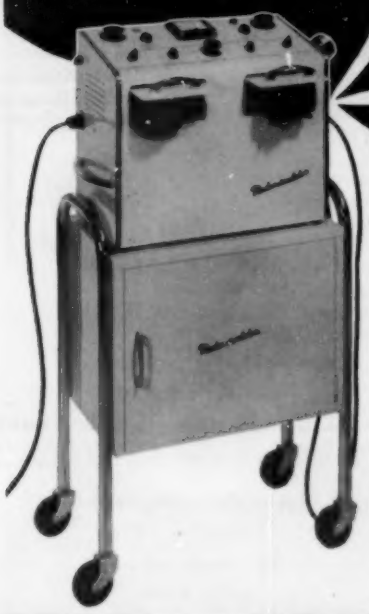

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Physical Therapy Review

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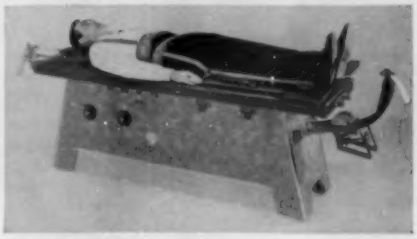

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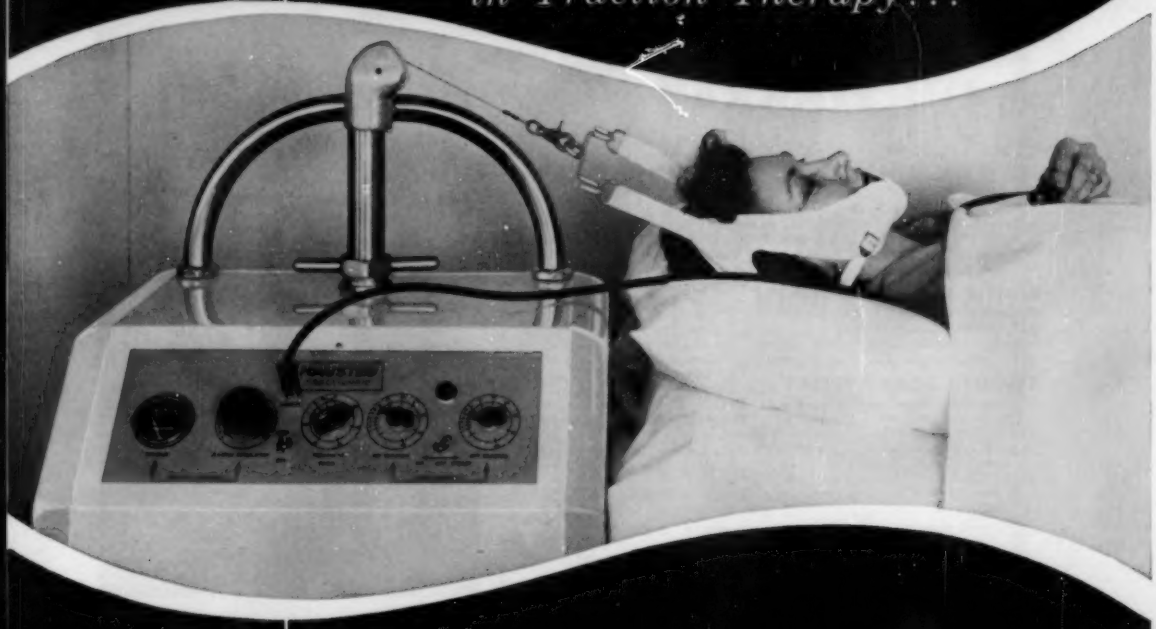

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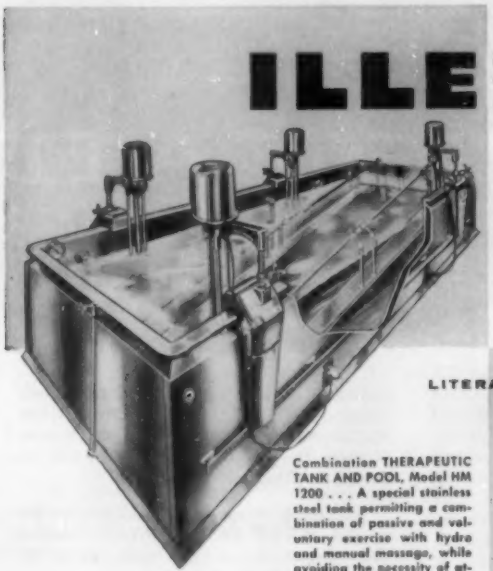

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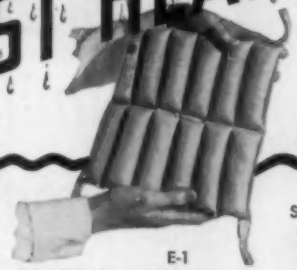

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Principles of Rehabilitation	University of Pennsylvania & U. S. Office of Voc. Rehab.	Rehabilitation Center Hospital of the University of Pennsylvania Philadelphia 4, Pa.	June 17–21, 1957
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Postgraduate Course in Technics of Treatment	The Children's Rehabilitation Institute for Cerebral Palsy Reisterstown, Maryland	Christopher H. Wiemer Executive Director Children's Rehabilitation Institute Reisterstown, Maryland	July 8 — Sept. 20 Oct. 7 — December 20
Work Simplification in Rehab. Programs for Disabled Homemakers Workshop	Michigan State Univ. Kellogg Center East Lansing, Michigan	Work Simplification Workshop Continuing Education Service Michigan State University East Lansing, Michigan	July 1 — 12
The Vocational Rehabilitation of the Mentally Retarded Adolescent and Adult	Association for the Help of Retarded Children, Inc. in cooperation with Teachers College Columbia Univ., N. Y. 27	Dr. Abraham Jacobs Box 35 Teachers College Columbia University New York 27, N. Y.	July 29 — August 16

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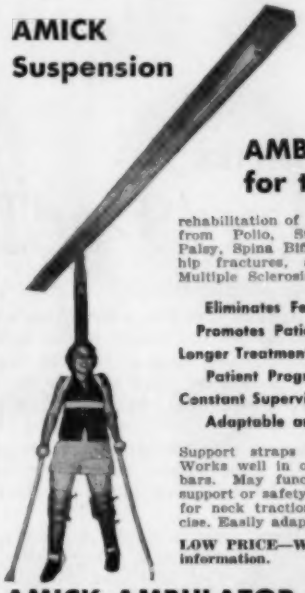

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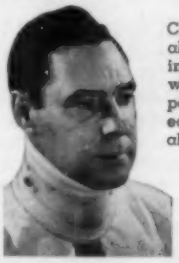

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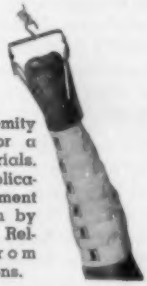

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"DR. M" VOLUNTEERED THIS LETTER

Mr. Clayton Williams
The Birtcher Corporation
Los Angeles 32, California

May 9, 1957

Dear Mr. Williams:

Received your letter in regard to my question on treatment of Achilles Tendon with Ultrasonic energy. I think you will have one for your book when you read the history and results in this case.

Patient: Dorothy A., age 14, good health—complained of severe intermittent pain at back of heel on right foot. Gave history of having a bad laceration at this site caused by piece of glass three months previously. Wound had become badly infected but was treated and healed medically. Patient was wearing a bedroom slipper, could not tolerate shoe.

Findings: No visible pathology, palpation on medial and lateral pressure with thumb and forefinger about three inches above insertion of Achilles Tendon resulted in pain. These pains were so severe that it resulted in a nerve reflex which caused knee jerk. This had been going on about two weeks and getting worse before I saw her.

Treatment: I tried relieving pressure by padding and strapping. There was no result. I came to the conclusion that there was possibly a fragment of glass still there pressing on a nerve ending. Had X-ray taken but it came out negative. I had only one thing left,—that was your Megason Ultrasonic unit.

First Treatment: A heavy coating of oil with Ultrasonic dosage at one watt for two minutes over and around the tendon. I advised her to bring in an old pair of oxfords the next day so I could cut the back out of the heel. The following day she came walking in with the oxfords on saying she had worn them all day at school and she had no pain at any time.

I gave her the same treatment but increased the time to three minutes. These treatments I continued for five consecutive days. At no time did she have any pain. On the last treatment the patient said she wanted to go to a formal dance the following night. I gave her my permission to wear high heels and dance all she cared to. I saw the patient two days after the dance and she had suffered no discomfort whatsoever so I dismissed her.

Conclusion: Probably there was a bruised nerve ending. I have no doubt in my mind that it was the Ultrasonic treatment that brought about such immediate results. You have my full permission to use this case history in any way you wish.

Sincerely yours,

/s/ "Dr. C. M."

Frequently we receive letters or telephone calls reporting with considerable enthusiasm quite startling results achieved with Ultrasonic energy. If you have some cases of particular interest I would certainly be glad to hear about them.

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C. J. Birtcher, President
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This photo shows me in younger days astride my favorite horse. The horse is the one wearing the saddle.

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The Physical Therapy Review

Official Publication of The American Physical Therapy Association

Principles of Underwater Exercise

Mary Elizabeth Kolb (U.S.A.)

The physical principles that form the basis for underwater exercise were established several centuries before Christ. However, history indicates that this knowledge was not applied therapeutically until the early twentieth century despite the fact that water was used extensively for its thermal, mechanical and cleansing effects in early civilizations. Since 1920 many underwater exercise programs have been carried out in pools and various shaped tanks that allow relatively free motion. A large amount of credit for the development of pool therapy must be given to the personnel of Orthopaedic Hospital in Los Angeles who worked out a scientific exercise program that has served as the basis for most of the work done in the United States.

Physical Principles Which Are The Basis For Underwater Exercise

Water must be considered as an exercise medium in its own right and a knowledge of the forces operating in water is fundamental to understanding exercise positions and progressions in water.

Force may be defined as any push or pull and can be measured in any weight unit such as pounds or grams. However, we usually think in terms of force exerted on a unit area of a given surface and speak of this as pressure expressed in pounds per square inch or grams per square centimeter. Hydrostatic pressure depends upon the depth of the submerged body (the greater the depth, the greater the pressure exerted on the body) and the density of the liquid (the greater the density, the greater the pressure exerted). If a submerged body is at rest, the pressure is the same in all directions at any point beneath the surface of the liquid, and the pressure is equally distributed over all of the surface of the body lying at the same depth. The total force on the submerged body is equal to the pressure multiplied by the total area of the body. A force of over 200 pounds may be exerted on the human body due to hydrostatic pressure. Another hydrostatic force to be considered is that of buoyancy, which is defined as the lifting effect of a liquid. This force was described by Archimedes and it is the prime reason that underwater exercise may be used advantageously for partially paralyzed parts. Archimedes' principle may be stated in two different ways: 1) A body immersed in a liquid is buoyed up by a force equal to the weight of the liquid displaced or 2) A body immersed in a liquid seems to lose weight and the apparent weight loss is equal to the weight of the water displaced. For example, an average person weighing 100 pounds out of water will weigh less than five pounds when he is submerged. A floating body displaces its own weight of the liquid in which it floats. This is called the Law of Flotation and may be considered an extension of Archimedes' principle. All of the hydrostatic forces will be increased if salt water is used in giving underwater exercise in a pool or tank. These, then, are the hydrostatic forces acting be-

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Read at the Second Congress of the World Confederation for Physical Therapy, held in New York, June, 1956. This paper appears in the *Proceedings*.

neath the surface of a liquid and because of them the action of gravity may be eliminated for all practical purposes in underwater exercise.

In addition to the hydrostatic forces certain molecular or cohesive forces within the body of water should be considered. These molecular forces will give some resistance to underwater movement in any direction and will be the only significant forces encountered in motion parallel to the surface of the water at the buoyant level. These forces are not great but they are sufficient to hold a body of liquid together if the liquid is undisturbed. Viscosity is the measure of these cohesive forces.

Underwater exercise involves movement in the water so hydrodynamic forces must also be acting and these must be taken into consideration in intelligently planning an underwater exercise program. The greater the speed of an object moving through water, the greater will be the hydrodynamic force that must be overcome. This is not a simple proportion but the force necessary to move through water will increase rapidly as the motion becomes faster. These hydrodynamic forces are also influenced by the size and form of the object moving through the water. The smaller and more streamlined the object or part of the human body is, the less the muscular force that will have to be exerted to overcome the hydrodynamic forces. Underwater resistance exercises are based almost entirely on these hydrodynamic forces which operate in any plane of movement.

Another physical fact that has considerable bearing on underwater exercise is that of specific gravity. This is the ratio of the weight of a volume of a substance to the weight of an equal volume of water or it is the number that states how much heavier or lighter than water a substance is. Substances that have a specific gravity of 1 or less than 1 will float, those which have a specific gravity of more than 1 will sink. The average specific gravity of the human body including the air in the lungs is slightly less than 1. The buoyant level of each part of the body and of the body as a whole will depend on 1) the postural alinement or the amount of surface subjected to the lifting force, 2) the weight of the bones in relation to the muscles, 3) the amount and distribution of fat tissue, and 4) the depth and expansion of the chest.

The temperature of the water in a pool or tank should also be given attention in setting up a program of underwater exercise. In general, the purpose for which the pool or tank will mainly be used will determine the most desirable temperature. It is safe to say that the water temperature should be from 85° to 90°F. for active swimming and for hypotonic patients. For muscle reeducation, for short periods of active exercise as for polio patients, and for active stretching a temperature range of from 90° to 94° is satisfactory. We also feel that water within this temperature range gives adequate heat for relaxation of spasticity and for general heating of the patient with rheumatoid arthritis. When a body is immersed in water practically all loss of body heat is by conduction and even at a temperature of 90°F. there is little heat loss. This predisposes to muscle fatigue and to heat exhaustion if patients or physical therapists remain in the water for long periods of time. Temperatures from 94° to 98°F. have been recommended, but, in general, water at these temperatures would be too fatiguing for most patients unless the water is used solely for thermal purposes and exercise is not a part of the treatment.

Positioning and Stabilization

Considering the different forces operating in water it becomes apparent that exercise progression and stabilization of the patient will present different problems in water than they will in air. First of all, the physical therapist must ascertain if the part to be exercised tends to float, in which case buoyancy is the dominant force; or, if it tends to sink, then gravity is the prevailing force. In the case of a body part which tends to float, the following would show the difficulty level of exercise progressing from the easiest to the most difficult position. Hydrodynamic forces must be considered in all planes of movement, but the hydrostatic forces operating are listed with each movement.

1. Active-assistive movement in any plane.
2. Movement from below toward the surface to the buoyant level of the part. The dominant force of buoyancy will be assisting.
3. Joint motion parallel to the surface of the water at the buoyant level. Only the molecular forces within the liquid are significant since the part is weightless at the buoyant level.
4. Movement from the buoyant level toward the surface. In addition to the molecular forces the weight of the superimposed liquid increases the diffculty level.

5. Movement downward from the buoyant level. The dominant force of buoyancy offers more resistance.
6. Movement downward from the buoyant level utilizing floats to increase the buoyant force.

Steps 2 and 4 in this difficulty level series have restricted usefulness since range of motion for many movements is limited. If the part of the body to be exercised tends to sink, progression will be similar to that used in table exercise where gravity is also the prevailing force.

Difficulty of stabilization is usually given as one of the great disadvantages of underwater exercise and admittedly it does pose a problem. Gravity and external fixation cannot be relied upon, and many patients do not have adequate muscle power for internal fixation. However, despite these handicaps and despite the disrupting force of buoyancy it is possible to secure adequate stabilization for localized muscle action. Fairly complete stabilization can be obtained by using a canvas and metal stretcher support in the Hubbard tank and by using an underwater treatment table, or a horizontal plinth in the pool. Hand grips, splints, canvas straps, or manual stabilization by the physical therapist will be necessary in almost all cases where complete stabilization is needed. The degree of stabilization necessary will vary greatly with different patients. When only partial stabilization is needed progression can be made by 1) tilting the treatment stretcher or plinth 2) having the patient sit on a submerged chair 3) having the patient hold onto a submerged railing while the rest of the body floats 4) having the patient do exercises from a free floating position. In these positions floats, splints, canvas straps and hand rails should be used as needed.

Underwater Activities Useful In The Treatment of Disease

Probably the most well known application of underwater exercise is that of localized muscle reeducation. Generally speaking, this type of activity is most useful for patients with flaccid paralysis who have "Trace" to "Poor" power in individual muscle groups. In the water these patients can perform movements that cannot possibly be done on a treatment table. Exercises can be more finely graded from active assistive to resistive utilizing hydrostatic and hydrodynamic forces than is possible when using air as the exercise medium.

Coordination exercises are commonly indicated for cerebral palsy patients and for persons who have had cerebrovascular accidents. So far only limited application along this line has been made, but it certainly offers a large field for future programs.

Underwater exercises to increase range of joint motion run the gamut from active exercises through stretching, depending on the condition of the individual patient. Because of the temperature of the water the arthritic patient does not have as much pain during movement and an increased painless arc of motion is possible. Stretching the shortened muscles of the poliomyelitis or cerebral palsied patient is also facilitated by the warm water. One is able to obtain better mobilization of the trunk, especially of the facet joints of the spine, in water than is possible with table exercises or gym programs.

Another underwater activity which can be used advantageously is gait training. Undesirable walking habits acquired by patients outside the pool may be corrected when body weight becomes less a factor. Patients with arthritis, hip conditions (such as Perthe's disease, congenital dislocation and tuberculosis) and postoperative conditions may be permitted much earlier gait training in the pool. Paralytic patients who can stand only with great difficulty out of the water may be taught effective gait patterns in the pool provided adequate support is given to prevent poor postural alinement. Ordinarily knee splints and back supports will provide adequate stabilization, but occasionally splints and crutches will have to be weighted to overcome the force of buoyancy. Progression in gait training can be made by teaching 1) standing balance in deep water at the corner of the pool 2) standing balance with support of parallel bars or railing 3) fundamental walking movements in the standing position 4) gait training in parallel bars, with weighted crutches, using arm floats for support, or unassisted in deep water. Progression can also be made by reducing the depth of the water which makes the patient support more of his own body weight.

If a pool is available certain basic activities should be taught to all patients as far as it is possible for them to learn the activities. Probably the most fundamental is that of relaxation in the water for without this most underwater activities are impossible. Every patient should also learn breath control which includes mouth breathing and breath holding as well as rhythmic breathing. Both prone and supine floating with

recoveries should also be considered basic. Recovery from a float is an essential safety skill and yet it is one that presents great difficulty to many handicapped persons. We are inclined to consider the recovery adequate if a patient can get his head out of water and maintain it in that position until something can be done for him. It would seem unjustified to deny the very weak patient the pleasure of the pool simply because a normal recovery to a stable position is often impossible. However, great care must be exercised by the physical therapist when such a patient is in the pool.

Basic swimming strokes can be modified so that they can be used in the treatment of specific weaknesses. For patients with weak deltoids, weak hip abductors or congenital dislocations of the hip, a reverse back stroke might be used. The patient progresses feet first using strong hip and shoulder abduction movements. The side stroke can be modified for the scoliosis patient by having the patient lie on the side of the concavity with the arm of that side maintained in an overhead stretch position. Log rolling can be used advantageously for the patient with trunk weakness. These are but a few examples of possible modifications and many others will undoubtedly come to mind as a physical therapist works with patients with various disabilities.

As a patient progresses in the pool he should be taught a basic swimming stroke and a relief stroke, either or both of which may have to be modified. Several precautions should be observed in teaching swimming strokes to patients. Swimming strokes in the face-lying position should not be taught to patients with abdominal weakness. Patients with weakness of the respiratory muscles or with lowered vital capacity should not be taught strokes such as the crawl, but should have emphasis on strokes which tend to enlarge the thorax such as the elementary back stroke and the breast stroke. Also any stroke that will tend to produce deformity or muscle imbalance should be avoided.

Advantages and Disadvantages

Underwater exercise offers many advantages. Kinetically there is a finer gradation of exercise possible for the extremely weak patient and he is allowed greater freedom of movement. The paralytic patient and the patient for whom ambulation on land is contraindicated may have early locomotion activities in water. The relaxation produced by the heat of the water permits effective increase in the range of motion. Physiologically underwater exercise encourages better circulation and retards muscle atrophy. It increases the depth of respiration, especially when swimming is included, and the warm water has a sedative effect on the sensory nerve endings in the skin. Psychologically the patient usually experiences pleasure while in the water because he is able to do more activities than on land. The pool provides a welcome relief to the patient who is confined to a wheel chair or has heavy braces which prevent free movement. The fear of falling or of pain on movement are greatly reduced. Swimming is a sport in which a handicapped person can learn to do well and swimming skill is often used by the patient as a compensation mechanism.

Despite the many advantages of underwater exercise there are certain disadvantages which should be weighed before an institution establishes such a program. The initial cost of a pool or tank is great, and maintenance is very expensive in relation to the number of patients that can be treated. Also, the time factor is to be considered. To do underwater exercise to the best advantage requires the services of a physical therapist and an aide whether a tank or pool is used. Most general hospitals feel that only five patients can be treated in a half day in a tank unless the patients are children so that more than one patient can be treated at a time. In our facility one physical therapist with a full time pool attendant can adequately manage 12 patients in a half day. Scheduling also presents difficulties because of the time required for preparing the patient for pool, showering, dressing, and hair drying. These are the two main disadvantages although the dangers of spreading infections, of fatiguing patients and physical therapists, and of patients acquiring respiratory infections after pool treatment cannot be minimized. However, if due precautions are observed, these hazards can be avoided.

Underwater exercise is a valuable adjunct to other forms of therapy, but it should never be used to completely replace exercises in air. Man is, after all, a land-dwelling animal and the forces of friction and gravity must be encountered by even the most severely handicapped person. Properly used underwater exercise can increase muscle power, range of joint motion and coordination so that a patient is able to function more adequately in his normal environment.

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Physical Therapy in Denmark

Ann Hetman

For most of you Denmark is just a name on the map of the world, a part of Scandinavia. Possibly it is so small and so far away you have no real impression, unless you happen to be of Danish descent or have visited Denmark. Think of the State of Wisconsin. It is about the same size as Denmark, perhaps the population is a little smaller. That may give you an idea about my country.

Denmark is the smallest of the Scandinavian countries. It covers an area of 16,575 square miles with a rather dense population, 4,300,000, the density being 255 to the square mile, and the topographical conditions are such as to make intercommunication easy.

These facts, together with a well organized public health service, a highly developed system of hospitals, and last but not least the voluntary mutual sickness insurance program, are the background for all care of patients in or outside hospitals.

District medical officers form the connecting link between the National Health Service and the practicing personnel of the medical service: physicians, dentists, pharmacists, midwives, nurses, physiotherapists, etc. The personnel of the medical service must be licensed by the National Health Service. To obtain such license, the applicant must take special training, which is required by law. Physiotherapy training is approved by the Danish Medical Association, but this training has not yet been established by law.

The regional hospital system is made up of 2 medical centers, 26 central hospitals, and 107 district hospitals. Besides these general public hospitals, there are 17 private hospitals, mainly Catholic, with state grants, a number of hospitals for special diseases, and a number of institutions for the care of disabled and abnormal persons. These hospitals are so located that any patient has a hospital within 10 miles of his home. The central hospitals and the bigger district hospitals have specialized departments. The smaller district hospitals have only one mixed surgical-medical department. Nearly all of them have a department for outpatients.

The voluntary mutual sickness insurance program began as far back as the middle of the sixteenth century, when artisans, earning very low incomes, assisted each other through voluntary organizations in cases of sickness and death. In the middle of last century the autonomous sick clubs, solely on the basis of private initiative, began to develop. These private sick clubs admitted only people of moderate means, regardless of whether they lived in urban or rural areas. Nonwage earners are limited to the amount of property they may possess.

Possibly the term "sick club" sounds strange, but that is the way the Danish word for these voluntary organizations has been translated. Over a hundred years ago the organizations really acted as clubs, gathering people for parties and picnics, and the word is still in use even though nowadays the purpose has changed and the word has lost its meaning. The desire of these artisans to help each other when they were ill is really the way our insurance system began.

At the end of the last century, the Danish Parliament voted to preserve the existing voluntary

Vice-President, Danske Fysioterapeuter, Copenhagen, Denmark.

Read at the meeting of Physical Therapists in State Crippled Children's Services at the Second Congress of the World Confederation for Physical Therapy, New York, June, 1956.

system by regulating the work of the clubs and giving them financial support. The system has evolved slowly through four major acts passed in 1892, 1915, 1921, and 1933.

The 1915 act extended the program to cover the more well-to-do members of the community by establishing sickness insurance societies, often called "Continuation Sick Clubs," to which sick club members who could no longer be considered unpropertied,* should be transferred. These societies do not receive grants from public funds. The act also admitted chronic invalids as members.

In 1921, the social welfare legislation was supplemented by an act of disability insurance, which was compulsory upon the impecunious members of the sick clubs.

The National Insurance Act of 1933, often called "The Social Reform," unified the acts on sickness and disability insurance, and made the right to old age pension dependent on membership in a sick club or a continuation sick club. The act also made it obligatory for all Danish subjects between the ages of 21 and 60 years not already active members of the sick clubs or the continuation sick clubs, to apply for admission as passive members, in order to make them eligible for disability and an old age pension. Passive membership was made compulsory, but the individual person is still free to decide whether or not he wants to join as an active member, that is, whether or not he wants to have the right to benefits in case of sickness. Today, 85 per cent of the population are insured against sickness. For the unpropertied classes of the population, there are 1,583 sick clubs with 3,100,000 active members, including children, or about 73 per cent of the population. These clubs cover the whole country and operate within a certain local area, the commune.† For the more well-to-do there are 16 continuation sick clubs, generally one for each county with 430,000 active members, or about 10 per cent of the population. The sick club for the State Railways has a membership of 60,000 or 1½ per cent of the population. Eight per cent are passive members and 6 per cent not members. Those who are not members may be persons who because of their health are not eligible for insurance, or persons who have either not applied for admission and are liable to a fine or who have been struck off the insurance because of arrears.

The active members who pay a real insurance premium are actually insured and have the right to assistance from the insurance when they fall ill. The passive members pay only a small contribution and do not receive any assistance in case of sickness, but they have the right later on to become active members subject to a qualifying period of 6 months. If a passive member fails to pay his contribution, it may be recovered in the same way as taxes. If a member over 40 years of age is in arrears for 5 years, he is struck off the insurance and cannot be readmitted. Should any such person, or unpropertied passive member in cases of sickness, have to receive treatment to be paid for from public funds, he will receive the aid as poor relief, thereby losing his civic rights.

Any person residing permanently in the country may become a member of the sick club for the area in which his residence is located. When a member moves to another commune, his membership is immediately transferred to the sick club operating in the district of his new residence. Children under 15 years of age are members, regardless of health, by virtue of their parents' membership.

The lower age limit for admission to insurance is 14 years, the upper 40 years. The applicant must be free of illness and capable of work. Those who because of their health are not eligible for insurance will receive the same aid as insured persons but they will receive it from the communes without losing their civic rights.

In order to obtain active membership in a sick club, the members' income and capital must not exceed certain limits which are fixed annually by the Minister of Social Affairs and as far as the income is concerned are equal to the average income of skilled workers at full employment. If the financial standing of a member improves to such an extent that he is no longer entitled to active membership in a sick club, he is automatically transferred to a continuation sick club, regardless of age and health.

The benefits are divided into 1) obligatory benefits according to law, and 2) voluntary benefits which the clubs may incorporate in their rules.

Obligatory benefits are: Free medical assistance, free hospital treatment, cash benefit if the members want to insure themselves that way, three-fourths of essential medicines, maternity benefits, and funeral assistance.

Voluntary benefits are: Dental benefit, bandages, appliances, etc., convalescent homes, home nursing, physical therapy.

* An unpropertied person is one whose ownership of property does not exceed a designated amount established as one base line for membership in the sick clubs.

† A commune is the smallest local district, corresponding to an American county.

Rules governing the continuation sick clubs are a little different. When approved by the Minister of Social Affairs, the sick clubs become eligible to receive grants from the state and the communes for care and treatment in the public hospitals at reduced rates, and for free transportation of the members to and from the doctor and the hospitals.

Any citizen of Denmark, regardless of his economical situation, can get the assistance he needs if he becomes ill. To that end there is a close cooperation between the central government, the local authorities, the sick clubs, and the big staff of practicing medical personnel.

A member of a sick club chooses within a certain area a general practitioner as a family doctor. This doctor is the member's adviser in all cases of sickness. He can refer the member to such specialists as are under contract with the sick clubs. He can refer the patient to hospital treatment either as an in- or outpatient. And he can prescribe the service of a visiting nurse, a physiotherapist, or a homemaker. On discharge from a hospital, the patient's family doctor will receive information regarding the diagnosis of the hospital, the treatment given and advice about further treatment that may be indicated.

The Danish Association of Physiotherapists has an agreement with the sick clubs. Practicing physiotherapists throughout the country undertake the treatment of sick club members. The patients may receive massage and remedial exercise in their homes if necessary, or they may be referred to the clinic of a physiotherapist, where they can be treated with heat, electro- and hydrotherapy. If they are referred to a hospital, they may have free conveyance.

In Copenhagen, the suburbs of that city, and a few other places the sick clubs run their own clinics for physical therapy. The director of the clinic is a physician who has specialized in physical medicine.

The clinics are provided with up-to-date equipment. When the patients are unable to go to the clinic, the physiotherapists may be sent out to their home for treatments.

When a sick club runs its own clinics, no charge is paid for the treatment. If the treatment is given by practicing physiotherapists, the patient pays one-third of the physiotherapist's fee.

The care of old people is well organized in Denmark. All over the country the communes operate a great number of Old Peoples' Homes. Some of these homes have apartments where the old people run their own household, paying a very low rent and living on their old age pension. Some old people give up their own household and get a room and full pension. Some of the Homes have wards for persons unable to manage for themselves.

With the increasing mean expectancy of life, the geriatric problem has become important. Homes are overcrowded, and old people occupy a great number of beds in hospitals. In the Old Peoples' Town in Copenhagen, Dr. Porsmann, director of the physical therapy department, has started a rehabilitation plan to enable old patients to stay in their homes as long as possible. As a result of physical and occupational therapy many patients have been able to return to their homes, where their rehabilitation program is continued through the sick club clinics or by practicing physiotherapists working for the sick clubs. Visiting nurses, homehelper and homemaker services are provided when needed. Recently an occupational therapy program was begun in some places for old people in their homes.

The principles for the care of the crippled and disabled are laid down in the Social Insurance Act and the Public Assistance Act of 1933, supplemented by an act of 1953, covering the care of people who have suffered from polio. According to law all cases of congenital or acquired disability observed before the patient's thirtieth year, are reported to the Invalidity Insurance Court by doctors, schools, or local authorities.

Crippled persons needing institutional treatment are admitted to the so-called "Special Relief Institutions" which are operated either by the state or by approved private institutions receiving state grants.

In pursuance of these acts, the Society and Home for Cripples in Copenhagen is approved as a Special Relief Institution with authority and obligation to provide hospital treatment (including aftercare), schooling, training, and education of cripples on behalf of the state.

The institution owns and operates two orthopedic hospitals in Copenhagen and Aarhus, Jutland, and orthopedic clinics with wards in different parts of the country. These hospitals have departments for physical therapy and occupational therapy and workshops producing prosthetic appliances and orthopedic footwear. In the physical therapy departments, inpatients as well as outpatients are treated with corrective therapy, remedial gymnastics, pool exercise, electro- and hydrotherapy, and massage. The department for occupational therapy provides

training and occupation for the same categories of patients.

The orthopedic hospitals and clinics operate as polio centers. In addition, a department for treatment of polio has been operated at Hald, Jutland, and a polio center with the most modern equipment was established in 1952 at Hornbaek, north of Copenhagen.

Treatment of cerebral palsy is by the most approved modern methods. The orthopedic hospitals in Copenhagen and Aarhus have opened special departments and kindergartens for treatments and physical training of both outpatients and temporary inpatients. At Soelleroed, outside Copenhagen, and at Hald, Jutland, two cerebral palsy treatment centers, home-school and kindergartens have been established, where the educational activities are supplemented with an extensive training program.

The training and education of crippled young men and women is sponsored and paid for by the Invalidity Court. The institution operates a vocational school and home for most handicapped. They are taught handwork and office work. Also, high school and university education may be given. All training is based on the same principles as for ordinary apprentices, according to the trade. After completion of the apprenticeship period, the trainees find employment in private business on equal terms with noninvalid fellow workers. The labor exchanges established in pursuance of the act on Labour Exchange and Unemployment Insurance also undertake to provide work for disabled persons.

Severely handicapped persons who are unable to serve an apprenticeship in a trade are given training in various kinds of home craft. The purpose of this training is to enable them to earn a supplement to their disability pension or chronic disease allowance. Occupational therapists of the institution make frequent visits to seriously handicapped cripples to get them started with home industry, the product of which may be sold through the institution.

The Society and Home for Cripples has plans ready for the building of a house with communal facilities for invalids. A number of apartments will be specially adapted for wheel-chair invalids. Also, a rehabilitation institute in connection with the Orthopedic Hospital in Copenhagen is under consideration. The rehabilitation program comprises re-training of persons, who as a result of protracted illness or of accidents, have become unable to follow their previous occupations.

Denmark has had several severe epidemics of polio. The year 1952-53 was the worst. At that time about 7,000 persons were affected. Half of them had residual paralysis. This epidemic resulted in the passage of the Polio Relief Act of March 1953. This act provides for financial assistance to a polio patient for a two-year period, in special cases a four-year period, if the doctor responsible for the treatment thinks the patient is likely to be capable of working at the end of that period. This assistance is similar to that given to a person suffering from tuberculosis. The state also pays for a polio patient's transport to and from the place where he gets treatment.

The National Foundation Against Polio was founded in 1952 by the union of two existing polio associations. Under protection of Her Majesty The Queen and with its own funds supplemented with state grants, it operates two clinics for outpatients with a kindergarten, departments for physical therapy, a rehabilitation department, a research institute, a test laboratory and a re-training institute.

Great efforts are made to bring the patients back to normal life. Physiotherapists from the rehabilitation department examine the patient's home and working place. They make suggestions for alterations, so that even seriously handicapped persons may be able to carry on with their jobs. Patients can apply to the Invalidity Court for loans free of interest, so that they can buy cars and wheel chairs, provide for better apartments and equipment.

The children are trained and educated in accordance to the plan made by the Society and Home for Cripples. Adults may be re-trained to a new job if they cannot go on with their previous work. All training is based on the aspect of making the patients self-sufficient.

A number of convalescent homes, and homes and sanatoriums for chronic diseases such as arthritis are located over the country. They are operated either by the sick clubs, the state, or by private foundations with state grants. Those foundations, such as the National Foundation Against Rheumatism, the National Foundation Against Polio, the National Foundation Against Cerebral Palsy, the Danish National Association of Cripples, and the National Foundation Against Tuberculosis operate in close contact with all curative institutions. In Denmark there is no Home-Care Program such as is found in the United States.

The utilization of our social plan, our hospital system and our insurance program is so effective and the distances from the patients' homes to the curative institutions so short, that it is possible for everyone to get proper treatment.

Principles of Record Keeping

Eleanor J. Carlin, M.S.

Introduction

One of the most significant attributes of a scientific profession is the existence of accurate and meaningful methods of recording factual material. It is safe to say that this has been a hallmark of the true scientist since the earliest days of recorded history. Although it is usually understood that the age of the "scientific method" emerged from the Renaissance along with a general awakening of interest in all forms of learning, we are also indebted to far older eras for much of our present day knowledge. No one would presume to ignore the contributions of such men as Aristotle, Galen, Plato and the host of other pre-Christian thinkers. Neither do we omit the magnificence of the discoveries of the medieval giants such as Galileo and Da Vinci or the more recent accomplishments of Franklin, Volta, and Galvani. Their influence on our present day scientific attainments is unquestionable, but the significant fact lies not so much in what they did as what we have been able to learn from their efforts. Because each found ways to record what he had learned, because each understood and appreciated the value of a record that could be interpreted clearly and accurately, we have been able to overcome centuries of time and differences in language for our present enlightenment.

The potentialities of the human brain as an instrument are unlimited. The power of abstract thinking, the ability to reason and to compute, the expression of beauty, and the existence of memory are only a few of its attributes. Yet to benefit others there must be communication through words, pictures, and numbers if the mental activities of one are to be accepted by many. The extent to which the media of communication are utilized has been called the "limit of progress." This limit recedes as we fail to communicate and expands only as we become more articulate.

There is no place where the effort made to extend this "limit of progress" has such importance as in a new and developing profession. In any field the early years of growth are filled with dangers peculiar to the very newness of the activity. If the factors of scientific recording and accurate interpretation are not present, progress is impeded, for without the check-rein of experience and proven fact there is a tendency toward unscientific theorizing, quackery, opportunism and well-meaning but undirected enthusiasm. Reason and clear, logical thinking may obtain a successful result but only accurate and understandable records of the methods, procedures, and outcome will substantiate its validity and insure its continued use for development in the field of endeavor.

The profession of physical therapy has reached a point where its methods of communication and scientific recording can be its greatest asset or its most damaging liability. We are entering an era where original research and clinical investigation are beginning to be accepted as the criteria for treatment. Empiricism still guides much that is done, but slowly and surely we are beginning to ask, "why?" "how?" and most pertinent, "why not?"

In light of the importance of records it is interesting to note that this is one activity in which every physical therapist engages, regardless of the type of work he is doing. It is readily seen that the quality of the record has a widespread impact on the entire field; therefore, no one can be free of the responsibility to strive to improve his small contribution to the total result—upon which may depend the reputation of an entire profession.

With this in mind it would be well to analyze our present methods to determine if they are effective and how they can be improved. An examination of specific records and their advantages or disadvantages would be an impossible task. Few records are identical, but this can be a point in their favor. Standardization of records is good to a degree, but it can also be a deterrent to their effectiveness. As long as we believe in treating patients and not diagnoses we must expect variations in records. There are principles, however, that are important enough to be applied

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generally and disregard for these principles is potentially dangerous.

TYPES OF RECORDS

For purposes of clarification, records can be divided into two categories—"administrative" and "clinical." They differ somewhat in design and use, but both have one basic purpose—that of communicating information from one person to another. Administrative records may be more statistical and impersonal than clinical records, which deal to a great extent with specific aspects of treatment and evaluation, but the basic requirements are similar and can be applied to anything from a monthly report to a muscle test.

PRINCIPLES AND THEIR APPLICATION

No matter how skilled are the muscle testing technics of the physical therapist or how well he keeps track of administrative details, his skill and efficiency will be wasted if the document on which the results are recorded is not effective in itself. Good record keeping begins with a form which has been planned with certain principles in mind.

Brevity—In constructing a record sheet every effort should be made to simplify the mechanics of use without sacrificing effectiveness. A form so designed that more time is required to read the directions than to fill in the data is not likely to be used.

Clarity—The use of ambiguous words or phrases which are easily misunderstood is a common fault. Directions or headings which may seem clear to the writer may be incomprehensible to others. It is wise to have several people read and interpret the form to be sure that it is easily understood and that it will contain the facts required.

Design—Consideration should be given to the physicel aspects of the record; it must be easy to use, handle, and store. If it is too large it will not be kept neatly and may not be referred to as often as desirable. If it is too small it will be difficult to record necessary information and it can be easily misplaced or lost. The quality of paper, printing, color of ink, and size of type are essential elements and should be carefully chosen.

Content—The record must be factual and complete yet contain no unnecessary items, i. e., the completed record should provide the required information based on a careful analysis of the facts needed. The method of recording must be determined and should permit accuracy with a minimum of writing.

Terminology—The selection of the proper word should be inherent in clarity and content, but in the field of medicine it is a stringent requirement and as such merits special attention. Medical slang, jargon, or colloquialism, may be confusing to contemporaries and have no place whatsoever in a patient's permanent record. Abbreviations, codes, and initials may save time and simplify the exchange of confidential information, but in a medical record they are unscientific and confusing not only to the person using the form, but to members of allied professions who may refer to the record. Most abbreviations can be interpreted several ways, such as "ABD" which could mean "abdomen, abducens, or abduction." There is real danger of misinterpretation of clinic records in medicolegal cases if inexact terminology is used.

WRITING THE RECORD

Illegible writing is a common offense of medical practitioners. It has been the source of humorous anecdotes and harassment to the reader. All clinical records must be read by someone other than the writer; legibility reveals true meaning as well as consideration for others.

Verbosity is another fault. Long, flowery phrases are unnecessary and may be inaccurate. The essential facts must be recorded but a long, wordy report wastes the reader's time.

To discuss *accuracy* as an element of good recording would seem unnecessary, since most persons trained in a scientific field are basically accurate in their reporting. There is, however, a sin of omission rather than commission when pertinent information is omitted. Familiar details may seem unimportant to the person keeping the record; therefore, great care should be taken to include all significant data.

RECORD USE

One of the important factors for insuring proper use of records is availability. Each form must be evaluated as to its purpose and kept in the place where it will be needed. Some will be more useful with the patient's chart, others should be kept in the department, many will eventually be kept in a central office or record room. The important point, however, is that the location be selected on the basis of the record's use.

Records have value only when they are kept up to date and accurately reflect previous observations and former tests. Medical care today emphasizes speed of recovery. This, of course, is

relative to each disease process, but in many instances the rapid recovery of a patient necessitates frequent revision of treatment programs. Without current information, no one associated with the patient can intelligently adapt treatment procedures. In a well organized department time should be scheduled for record keeping so that it will not be necessary to disturb or curtail patient treatment.

SPECIFIC RECORDS—USE AND ABUSE

CLINICAL RECORDS

Although patients' records will differ with every department, most will include three main types. These are 1) referral forms which bring the patient to the department, 2) progress notes which chart his actual treatment results, and 3) various tests and measurements. Departments with special services will have other forms, but these three are used generally.

1. Referral forms—These forms are usually controlled by the hospital administration. In most instances, one form is employed for all types of referrals throughout the institution. This is an advantage since the physician has only one form with which to become acquainted; but it requires that the physical therapy staff understand the form and how it can be utilized to secure the best results.

2. Progress notes—Progress notes constitute a major part of the responsibility of the physical therapist. He must know how to write them intelligently for in no other records are there so many dangers and pitfalls as here, and few records are so directly important to patient care. Notes must be objectively written in relation to the prescription and the desired result if they are to be of value.

Objectivity must be maintained when writing progress notes for they must contain only what can be seen, proved, and measured. They must never be an opinion of what has happened to the patient nor can the measurements be of a subjective nature. Stating that a shoulder has greater range of motion is useless and dangerous unless actual measured degrees of motion can be given. A statement indicating an increase in strength of muscles must be accompanied by a muscle test or other objective measurement and, when the condition cannot be measured, there must be some indication that the change was "apparent," "so stated by the patient," or was observed as a result of some specific activity not previously possible.

Timing also is important in writing progress notes if an effective record is to result. No specific time interval can be given since this will vary with the treatment center. A center handling acute injuries will require more frequent notes than a facility dealing with chronic illness or cerebral palsy. For the average institution it is suggested that notes be written at certain, definite periods and *whenever the condition of the patient changes.* The interval itself is not as important as having a definite routine and an understanding that any change must be recorded.

3. Evaluation records—No attempt will be made to outline acceptable forms for recording tests and measurements since every center has its own forms and method of recording. When records provide the information needed and the evaluation can be used, the mechanics are of little consequence. There are, however, two basic points which should be stressed in relation to records for any test or measurement: first, they must be made available to anyone concerned with the patient; and second, each form must have a *key* for the marking technic so that anyone can read and interpret the data.

It is in the area of interpreting data that some of the worst abuses occur in our field. This is particularly true in evaluating manual muscle tests and ranges of joint motion. Some of the confusion and actual inaccuracy stems from the fact that either the key given is not complete or the subjective measurements are recorded as objective findings.

Most physical therapists are familiar with the technic of recording muscle strength as outlined by Daniels, Williams, and Worthingham.* The designations are shown on a chart available from the National Foundation for Infantile Paralysis. On this chart a key is given for specific testing grades. Nowhere does there appear any deviation from these six categories and yet on the majority of tests in clinical centers we see finer gradations indicated by the symbols (+) and (−). Some physical therapists divide the range of grades in percentages and record differences of 3 to 4 per cent on a 100 per cent scale. It is conceivable that experts well trained and with wide experience can objectively distinguish finite differences in muscle strength; but if records are to be the scientific, objective measure we claim they are, then such measurements must be *qualified* and *justified* by means of some explanatory key.

In the performance of range of motion tests

*Daniels, Williams and Worthingham: Muscle Testing. Ed. 2. Philadelphia, W. B. Saunders Co., 1956.

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	NAME OF PATIENT	Baking	Infra-Red	Diathermy	Massage—Local	Massage—General	Therapeutic Exercise (Local)	Therapeutic Exercise (General)	Whirlpool	Paraffin	Low Voltage Current	Muscle Stimulation	U.V.O.	Ultra Violet	Hot Packs	Posture Exercises	Gait Training	Early Ambulation Procedures	Tests and Measurements			Private	Semi-private	Ward	Private-Out Pt.	Compensation	Clinic	Ind. Clinic	Others	Totals	Signature
1st	E. K.		1		1		1																			✓				3	R.F.
2nd	D. V.		3				3															✓								6	P.G.
3rd	O. B.	1														1								✓						2	R.F.

Figure 1. Concise administrative record form.

modern instruments have eliminated mathematical deviations when used by skilled physical therapists. The subjectivity, therefore, has been largely eliminated. There is controversy as to what anatomical position constitutes 0° and what position is measured at 180°. The point is that it makes little difference how the measurement was taken so long as a key is available to make the results meaningful.

Administrative Records

The basic determination in construction and use of administrative records is actually very simple. Information needed over any given time should be analyzed and a form then selected which will give this data in as simple a way as possible. The elements usually considered necessary include an indication of the number of patients treated, status of the patients, date of treatment, types of procedures used, cost of treatment, amount of work done by individual physical therapists, length of specific treatment time for any single patient, and the daily, monthly, and yearly census in the department.

This may appear to include a great number of facts and details but all of this material can be obtained quickly and easily on a single form which requires a minimum amount of the physical therapist's time. The form presented (Fig. 1) is not intended as a model suitable for every treatment center. It is, however, one example of a form which has proved successful in acquiring a great deal of information in a department of a small general hospital. Each physical therapist is responsible for recording the data on each patient he treats, a task that requires about five to ten seconds to accomplish. He writes in the first block (A) the charge for the treatment and then in the second space (B) the patient's name. The specific procedures used, the number of times each procedure is applied to each patient, and the status of the patient is entered and the total amount of treatment is recorded; the initials of the physical therapist are added, and the recording is completed. At the end of the day this form is summarized by a clerk or physical therapist.

As an example of the way in which this form works, three typical patients are recorded on the form in light of their treatment prescription. E. K. receives heat, massage, and exercise to the left shoulder so the numeral 1 appears beneath each of these procedures. D. V. gets infrared and exercise to the left shoulder, right hip, and right hand. Since each procedure is applied to three different parts, the number 3 appears in each block. O. B., the last patient on the list, receives heat to the lumbosacral region and posture exercise, and entries are made for those specific treatments. It will be noted that the charge for each is specified, the status checked, and the physical therapist's initials are given.

From this one form, we can get the financial report of the department, the patient's attendance record, the types and amounts of specific treatments given, the breakdown of classification of patients, as well as the exact amount and type of work done by every staff member. This latter information is particularly valuable to the supervisor who wishes to assure equal opportunity for young staff members and students.

This form shows the procedures used most frequently and the ones that are least in demand. To be able to point out that a department gave 30 whirlpool treatments every day for two weeks

can be an effective talking point in obtaining new equipment. This same type of data can also be used to evaluate the needs of a department and prevent the spending of money on unnecessary supplies and equipment. Indirectly it can add to the efficiency of the staff by determining where in-service training and education may be of value because of a demand for certain specific technics.

If the administrative office requires weekly, monthly, or annual reports of numbers of patients, types of patients, total treatments, or total income for any given period, it is readily accessible on this form. At stated intervals these totals can be collected for departmental records easily and quickly. One record of this type eliminates many different forms, each of which adds to the work load.

There are other administrative records, but most of these must be selected on an individual basis. These include a card for each patient with his personal history, diagnosis, prescribed treatment, and attendance which becomes part of the permanent department record. There also may be records of equipment, requisitions for supplies, and personnel data sheets. No matter how many details are desired, they can be obtained with relative simplicity if the needs are analyzed and the forms constructed on this basis.

SUMMARY

The importance of records and the science of good recording must be recognized by all physical therapists; therefore, close scrutiny of types of records and methods of recording data must be made. Physical therapists must provide for themselves and others a comprehensive collection of data regarding each patient treated. Such records may serve as an educational tool, may provide a basis for clinical research, and may be used to establish concrete evidence of the effectiveness of physical therapy procedures.

The Shoulder Girdle in the Chronic Respirator Patient

Harold N. Neu, M.D. and Harry R. Dinnel

ANATOMIC AND FUNCTIONAL CONSIDERATIONS

The relationship of the shoulder girdle to respiration has been variously described, but Steindler[1] emphasizes that the following groups of muscles are important as auxiliary inspirators: (1) the scaleni, (2) the sternocleidomastoids, (3) the sternohyoids, sternothyroids, and mylohyoids, and (4) the humerothoracic and scapulothoracic muscles. Koepke et al[2] in their electromyographic study of the muscles of respiration conclude "that the muscles of the shoulder girdle were used by some individuals at the end of maximal inspiration and expiration." In our experience this is readily demonstrated by clinical observations of patients in a respirator center.

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In the dynamics of respiration the first three groups come into play chiefly in conditions of severe dyspnea. In maximal respiratory activity the fourth group is also effective. The first three groups require that the head and neck be stabilized for maximum effectiveness of contraction on the thoracic cage. The fourth group requires for their action on the thoracic cage that the humerus and scapula be stabilized.

Steindler[1] points out that athletes also make use of this concept in Swedish gymnastic exercises. In these exercises the arms and shoulders are moved backward and upward and fixed in this position. The pull of the humerothoracic muscles on the ribs widens the thorax and deepens inspiration. Steindler also noted that swinging and circling exercises of the arms by means of Indian clubs or dumbbells will cause the humerothoracic muscles to pull vigorously upon

Figure 1. Respiratory patient using assistive shoulder wheel.

the rib cage; accordingly, many recommend such exercises for malposture or congenital chest deformities, such as funnel chest, in which the pull of the muscles on the chest wall may increase the inspiratory excursion and, incidentally, increase the vital capacity. None of these groups of muscles appear to be significant as auxiliary expirators.

NATURE OF INVOLVEMENT

It has been emphasized by Moskowitz and Laszewski[3] that scapulothoracic involvement in poliomyelitis is relatively frequent. In our Respiratory and Rehabilitation Center we have found that the majority of long-term respirator patients have high spinal involvement and therefore in most of them there is marked impairment of these groups of muscles of the shoulder girdle. The problem is further aggravated by the limitations to physical therapy which usually occur when the patient is in the tank respirator. This is due to the fact that the design of the tank respirator does not allow sufficient space for the therapist to elevate adequately or circumduct the upper extremity of the patient. It further creates difficulty when most of the attention is paid to the hands and lower extremities rather than to the recovery of the shoulder girdle. This is much more evident in those cases in which an adequate weaning program has not been begun early. Severe contractures rapidly develop and often there is marked lateral shift of the scapulae, in some cases it is so great that a simulated winging of the scapula occurs. The loss of scapulohumeral rhythm is marked and with it, of course, capacity for elevation of the extremity or circumduction.

TREATMENT

In such cases which have been chronic, we have chosen to treat them in the following manner: early stretching exercises are employed in the tank respirator and rocking bed following hot packs, if necessary, to free the fibrous adhesions that are present in the frozen shoulder. Attempts at stretching are of little value unless the physical therapist immobilizes the scapula with one hand and abducts and elevates the arm with the other. Assistance in this maneuver can be obtained when the patient is on the rocking bed, using the rocking bed to furnish some of the resistance. Similarly, pulley arrangements over the rocking bed may be used to assist in exercises which will loosen the shoulder. It has been our experience that preliminary medication with some analgesics is desirable if maximum stretching is to be obtained.

As soon as the patient's condition permits him to be in a wheel chair further stretching procedures are done in the gymnasium. This can be accomplished partly by the standard overhead pulley arrangement or by use of the shoulder wheel. It has been our experience that the conventional shoulder wheel with the fixed bar-hand grip restricts wrist motion, impairs pronation and supination of the forearm, and with this locking of the wrist, forearm and elbow movements, the shoulder range of scapulohumeral components is markedly disturbed. Accordingly, a shoulder wheel was developed which frees the wrist, aiding in supination and pronation of the forearm and helping to initiate normal humeral and shoulder girdle function. It was also recognized that assistive active motion is of greater aid than passive attempts towards movement in painful shoulders. As soon as the patient can be brought to the gymnasium, a daily program of 15 to 30 minutes exercise twice daily for the shoulder girdle and each arm is instituted. At first the physical therapist must assist the patient. If the paralysis of the hand is so great that the patient cannot grasp the handle, it can be fixed to the shoulder wheel with a glove and

strap as illustrated (Fig. 1). Again, preliminary medication with an analgesic is desirable. At first, assistive exercises are employed and then additional weights are rapidly shifted on the shoulder wheel to permit resistive exercises. These resistive exercises are essential if any assistance to the respiratory muscles is to occur. A small model of the shoulder wheel which can be inexpensively made is sent home with the patient for continued therapy at home.

As with all physical therapy procedures, quantitative evaluation of the benefit of this procedure is difficult. We feel that in those patients who follow this program there has been some improvement in the vital capacity of each. This improvement has occurred at a more rapid rate than previously occurred when this procedure was not employed. More important, however, for the chronic respirator patient is that the program of exercise results in a reserve which increases his maximal breathing capacity so that he can go for longer periods with less respiratory aid. Objection will be made by some that one should not attempt to mobilize the flail upper extremity. While we concur with this general principle, our observations have indicated that many extremities which at first examination appear flail, after a program of therapy recover some function which can be made useful in rehabilitating the patient.

SUMMARY

Emphasis is placed upon the importance of more attention to the shoulder girdle in the early phases of poliomyelitis and the institution of appropriate exercises for these auxiliary respiratory muscles in the convalescent stage. A shoulder wheel which permits an exercise program with a minimum of assistance from the physical therapist is particularly useful in such an exercise program. A shoulder wheel which appears to fit such a need is described.

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Case Report

Individual Approach to Rehabilitation of the Hemiplegic Patient

Patricia A. Short

The following is a case report of a right hemiplegic who showed some improvement through routine exercises, but marked improvement through an individual exercise regime.

A 62 year old male was admitted to the V. A. Domiciliary at Camp White, Oregon, with the following diagnosis: right hemiplegia from old cerebrovascular accident, with accompanying aphasia. The physical examination at admission showed complete paralysis of the right upper extremity, decreased function of the right leg with the exception of the quadriceps, and a marked right facial lag. There was good range of motion in all joints. The tendon reflexes were more pronounced on the right; other neurological signs were normal. Orientation for places and events was fairly good, but mental processes were retarded. There was some emotional instability. The patient was able to walk with a cane if attended.

Past medical history revealed the patient had suffered a cerebral hemorrhage one year prior to admission. At that time he had been confined to a hospital for a month after which he was under care of a nurse. In the course of the following year he had seen several physicians but had not received physical therapy.

Upon the patient's admission to the domiciliary a physician prescribed this physical therapy program: Heat and massage were ordered to be given to both extremities to improve muscle tone. An attempt to elicit a muscle response in the patient's right arm was tried through electrical stimulation, passive exercise, and later through muscle reeducation. Active exercises were given for the trunk

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and affected lower extremity. On walking he could flex and extend the right leg and bear his body weight. He used "hip-hikers," however, to swing the right extremity. This resulted in an unbalanced, slap-footed "walk-to-cane" gait. Attention was directed to breaking these bad walking habits by doing some of the exercises in parallel bars before a mirror and teaching by demonstration and repetition.

The patient was cheerful and willing but was confused and frustrated at times by his inability to express himself. He did learn some simple tasks, but it was evident in time that his understanding and retention of new ideas were limited. He was able to master weight-shift, coordination, and balance while performing walking exercises in front of the mirror, but he failed to carry over these activities to his walking. He could use the right shoulder and arm with help of the left arm in exercising with the pulleys, but he would allow the right arm to hang at his side when walking. Evaluation at the end of two months showed the right trunk, hip, and leg muscles to be functional or improved, but the right arm, for all practical purposes, to be essentially flail.

After this initial improvement the patient seemed to reach a plateau with no change in his condition. In time he became discouraged by the lack of function in his right arm and his unstable gait. He also missed his family. Repetition of the prescribed exercises had become a dull habit rather than a challenge and the staff had difficulty in helping him to understand any other method of learning. He had the physical potential to improve, but lacked the means of accomplishment. In discussing this situation with his family it was learned that the two interest in his life, prior to his illness, had been business and golf. Golf was the thing he missed most. It was decided that golf equipment would be used to see if it was possible for him to learn to swing a club with his left hand. The aims were: to develop balance, weight-shift, and coordination; to increase function in the left arm; to increase motivation and stimulate morale though a familiar activity.

The golf clubs were an immediate success. He was delighted merely to be able to swing one again. Using a driver and cotton balls, he stood at right angles to the mirror and leaned against the rail of the parallel bars. Taking the club in his left hand he swung it across his body to the right, then back to the left—an extremely awkward swing. This unorthodox swing brought about a shift of body weight from the left to the right foot, and made it necessary to tie the right arm out of the way of the club. At first the patient was content to hit the ball occasionally, concentrating on his swing. As his balance, weight-shift and coordination improved he began to be mindful of his "form." He began to stand without depending on the parallel bars, and made a greater effort to control his right shoulder and arm. His interest in "stance" and posture made him aware of standing straight in other activities. Within six weeks he was walking "through" his cane instead of "to" his cane. He was using the left or normal arm with greater ease, and his whole attitude toward life brightened as his "game" improved. In approximately three months he had actually sunk a putt at his old golf club—a highlight of his recovery.

COMMENT

Because the patient was a right-handed person, it had become necessary for him to learn skills for daily living activities with the left hand. Prior to his entrance into the domiciliary his family had acted as his "hands," and he had little need to walk. He had been tense and frustrated by his inadequate means of communication, but willing to learn. This willingness was hampered by his difficulty in understanding.

It was felt that he had not reached his functional potential after several months of routine exercises, so exercise through a task familiar to him before he suffered a cerebral hemorrhage was tried. It was fortunate that the patient loved the game of golf as this inspired him to work very hard over a prolonged period of time. The independence which resulted from exercising through his golf activity brought about the self-confidence he needed. He was overjoyed to be able at last to do one thing which he had done prior to his illness.

Hemiplegic patients present so many variable factors for consideration in rehabilitation that it is difficult to evaluate any one approach. It is felt, however, that all applicable exercise regimes should be explored, no matter how unorthodox the stimulus may seem.

The Spring Exerciser

Gilbert B. Winslow, B.S.

The purpose of this device is to strengthen and exercise weak muscles. It is useful in the management of patients who have had:

Poliomyelitis, where hand and finger weakness requires physical therapy;

Tendon transplants, where flexibility and range of motion may be achieved through gradually increased resistance of different spring tensions;

Tendon repair, when flexibility is to be encouraged.

Materials needed for the exerciser:

1 board—17½ inches long, 8 inches wide, and 1½ inches thick

1 board—12½ inches long, 8 inches wide, and 2½ inches thick

2 copper plated 5/16 inch steel rods

3 sets, or more, of tension springs, which provide varying degrees of tension, (5 tension springs to a set—available at any hardware or variety store)

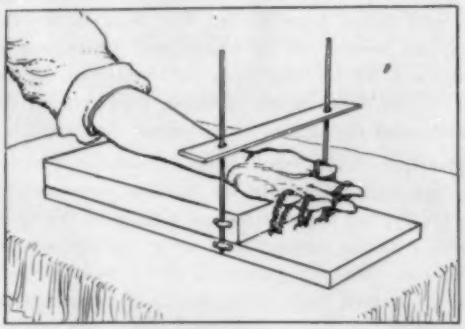
5 brads to which the tension springs are attached

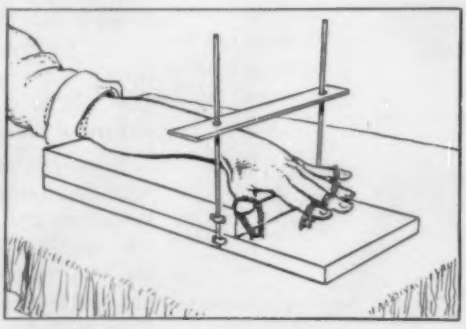
1 piece of wood as cross bar suspended between steel rods. The wood acts as indicator of range of motion for specific movements.

SUMMARY

The portable spring exerciser was devised to assist the physical therapist in the rehabilitation of the patient whose forearm and hand muscles need strengthening.

Chief Therapist, Kaiser Foundation Hospital, South San Francisco, California.





Figures 1 and 2. Technics of applied resistance to wrist and fingers.

Our Book Reviewers for June

Dorothy A. Graves, Associate Professor, Department of Physical Therapy, University of Southern California, Los Angeles, California.

G. Orville Johnson, Associate Professor, Syracuse University, School of Education, Education for Exceptional Children, Syracuse, New York.

Margaret L. Moore, Chief, Department of Physical Therapy, North Carolina Memorial Hospital, University of North Carolina, Chapel Hill.

William J. Shriber, M.D., Director, Physical Medicine and Rehabilitation, Beth Israel Hospital, Boston; Instructor in Medicine, Harvard Medical School, Boston.

Julianne Cunningham Steffens, formerly Senior Physical Therapist, State Veterans' Home and Hospital, Rocky Hill, Connecticut; Inactive member of the American Physical Therapy Association, Glastonbury, Connecticut.

Editorial

The Team Approach and Cooperative Effort

The current vogue in discussing patient care is to herald the "team approach." Although the phrase may have become tiresome through overuse, this does not mean that the ideal implied by the expression is not be cherished; however, due to repetition, it has in many instances lost something of its original thought. The word "team" has a number of meanings, and failure to understand the true concept when applied to patient care can impair the efforts of all who contribute to the patient's rehabilitation. It is time for the physical therapist to compare the ideal meaning of the "team approach" with the actual practice prevalent in his particular situation.

The concept of "the team" may be that of pulling a load—in this case, the patient. The child or adult has his idea, the doctors, nurses, physical therapists, and others have theirs. The team is literally pulling the patient as the horses pull the wagon, and others may be adding their contributions by pushing from the rear. The end results fall far short of the expectations of those interested in the welfare of the patient—and the patient is completely frustrated.

In another interpretation of the "team" idea, personnel concerned with the treatment may unite to resolve the problem presented by the patient and his family, but the patient and a physical therapist, who identifies himself with the patient, may draw together against the other team members. Thus the patient is like a ball, "tossed" into the hospital or clinic, then back to the family and community. Such misunderstanding of the "team approach" will cause the collapse of any constructive program.

Another equally unsatisfactory concept of "team" is where the patient, including possibly the family, is in the center. One person interested in the care of the patient is pulling north, another south, two others may be tugging east, and someone else west. Each has an interest in the patient—his own selfish one. The tendency is to divide the patient limb from limb, organ from organ, and never shall the assembled person meet as an integrated whole.

The need for communication among the components of multidisciplinary agencies has resulted in the development of a team approach which in many ways satisfies the original definition as applied to patient care. Here at the conference table all who are

Editorial

interested in the welfare of the patient gather and, through understanding his needs and desires, plan a comprehensive program. Compilation of the facts about the patient and knowledge of the contributions of each discipline can result in effective treatment; however, lack of cooperation on the part of any one member can cause a breakdown in the efforts of the group. It is not the team approach per se but rather the cooperative efforts of the team and the patient which insures an ideal outcome.

Not all patients need or have available the many services of a multidisciplinary agency, but often a patient needs the assistance of more than just the physician and the physical therapist. It is their responsibility then to see that these services are provided. This does not imply that the physical therapist should assume the role of the visiting nurse, occupational therapist, or medical case worker; it does mean, however, that the physical therapist should plan with the physician what the needs of the patient are and will be, and see that authority is given to the persons necessary to complete the program. The physical therapist must know what community resources are available and the procedures necessary to obtain them. Most localities have a variety of social agencies that are equipped and willing to assist the patient and his family.

The best care for the patient will be realized only through the skills of the physician, the physical therapist, and other disciplines. When the physical therapist is asked by the physician to arrange for service to the patient from other disciplines, he must have the perspective and ability to integrate these services so that the "team" functions in the true sense of "working together" for the patient.

Physical Therapy Fund, Inc.

The Fund continues to grow in the minds of the members as well as in number of contributions. As of May 20, 1957 contributions from donors totaled $6,242.75. Checks have been received almost daily and it has been gratifying to receive a larger number of checks from new contributors at the beginning of each month. Many chapters and districts have published reminders about the Fund in their newsletters, a service which is appreciated in this early period of the Fund's establishment.

In addition to gifts from individuals the following chapters have contributed: Maryland, Minnesota, and Western District of Pennsylvania.

Decision on the first grant award will be made in June following suggestions from our Advisory Council and Board of Directors.

Association Endorses Polio Conference

The American Physical Therapy Association is privileged to be one of the endorsing organizations of the Fourth International Poliomyelitis Conference, meeting in Geneva, Switzerland, July 8 through 12. Members who will officially represent the Association at that meeting are Lucile Cochran, Administrator of the D. T. Watson Home for Crippled Children in Leetsdale, Pennsylvania and Laura Smith, Physical Therapy Supervisor—Education, Southwestern Poliomyelitis Respiratory and Rehabilitation Center, Houston, Texas.

WORLD CONFEDERATION FOR PHYSICAL THERAPY *News*

Message from the President

Our Second International Congress in New York will have already passed into a happy memory. Nearly all those who were present will be back in familiar surroundings, a few only may still be finishing their special studies before returning to their own countries. Paris in 1959 is still a dream, although I hear that many members have already started saving for it. Should the period between be a rest time or one of activity? Is it not between the high lights that we must consolidate the work already done and lay the right foundation for further progress?

We came away from New York with a knowledge of unity of purpose and a common language, that of our work—Physical Therapy. Little did we think during those happy days of our Congress how soon we were to see new world problems come to the fore with such urgency, with all the attendant doubts of what is right and wrong, action or no-action, solution or no-solution, strife or peace.

In our work we have one great blessing, a patient is always a patient. A sick or injured child or adult calls for our aid and there is no nationality bar to our giving of our best. No stress or strife can break our unity of purpose or the bond of our common language. Indeed it can draw us all even closer in our work. Perhaps the very magnitude of the problems facing man will inspire us to greater efforts. Our work, with other members of the allied professions, to aid the individual is part of a great work. Complete rehabilitation of the sick or injured concerns the Mind and Spirit as well as the body. Let us take our full share boldly in striving for the complete rehabilitation of the patient.

Everywhere we need more trained personnel. In the countries where the value of the physical therapist is acknowledged there is a shortage, and in the countries where there is little or no physical therapy there is much to be done. Let us all try to pass on some of our enthusiasm for a satisfying occupation to the younger generation so that our ranks may be enlarged by an ever increasing number of members.

I am greatly looking forward to meeting members of the Executive Committee at our next meeting in July in Cambridge, England. We have a lot of work on hand and I hope that when we meet we shall be able to complete some of our projects.

I should like to think that during my term of office as your President I should be able to visit all Member-Organisations and many of the countries not yet in membership but which we hope will be before too many years have passed. This may seem rather optimistic! However, if any Member-Organisation thinks that a visit might be helpful, I will try to plan my holidays each year to include as many of these visits as possible. The more we can share our experiences and knowledge and pass them on, the better for the growth of the WCPT.

May I also take this opportunity of thanking the Member-Organisations who so kindly send copies of their Journals direct to me? It is a most helpful means of trying to keep in touch with each country. It is also a great bond to be able to read of the activities of many friends.

How many members are thinking of brushing up their French or even learning before 1959? Perhaps the value of the spoken word in the language of our host nation is even more appreciated by those of us who do not find the gymnastics of a foreign tongue as easy as we should; the discipline of the effort is always rewarding! I wonder if we should try to compile a glossary of terms most often used in our work in the languages of our Member-Organisations? Many of our terms would at present be hard to find in the dictionary.

To the Future . . . Possibly there never has

Reprinted from World Confederation for Physical Therapy Bulletin to Member Organisations, No. 11, March 1957.

been a time of such opportunity and such need for Right Decisions; may we all play our part, wherever we are, in this Total Rehabilitation of a sick world for the good of mankind rather than the selfish greed of unjust gain.

G. V. M. GRIFFIN,
President

Resolutions

The following letters are among the replies to Resolutions passed at the Third General Meeting of the World Confederation for Physical Therapy:

M. G. Cadnau, M.D., Director General,
World Health Organisation:

"Thank you for communicating to me in your letter of 3 September the resolution adopted by the General Meeting of the World Confederation for Physical Therapy concerning relations with WHO.

"I have noted this resolution with pleasure. Useful consultations have taken place between the Confederation and WHO in the past and recently concerning activities in rehabilitation and I welcome the offer of the Confederation's services in connection with future work in this field."

Maurice Pate, Executive Director,
United Nations Children's Fund;

"On behalf of the United Nations Children's Fund, I wish to thank you for your recent letter which included the constructive and helpful resolution about UNICEF.

"In our endeavor to help better conditions for children, we have been especially glad to participate in bringing some help to handicapped children.

"It is the utilization of the supplies UNICEF provides that can bring the ultimate success in all programs and we are well aware of the active part Physiotherapists have taken in rehabilitation work for children all over the world.

"Thank you again for your recognition and support of our work."

Chartered Society of Physiotherapy (Great Britain)

The Annual Congress of the Chartered Society of Physiotherapy is being held from September 19 to 21, 1957, inclusive, at St. Pancras Town Hall, London, N.W.1. Physical therapists from the Member-Organisations will be very welcome to attend.

Recruitment of Physical Therapists for Rehabilitation Units Under the Aegis of WHO and the Social and Economic Council of United Nations, and Other Agencies

The World Confederation for Physical Therapy has been, and is now, cooperating with the World Health Organization and other Agencies in supplying personnel for programs of rehabilitation in countries where physical therapy is not yet firmly established. A list of persons desiring appointments has been kept and a few physical therapists from various countries have asked for their names to be included on it. This procedure has not been entirely satisfactory because vacancies are very infrequent and by the time the Agency is seeking a physical therapist the list may be out of date and the people whose names are on it are no longer interested or available. In addition, vacancies are circulated among the various governments and some of the positions have been filled by persons who have made their desire for service abroad known to their own governments. Some of these have failed to inform their own national associations of their appointment.

The Executive Committee of the World Confederation for Physical Therapy feels that all the Member-Organisations recognise the deep responsibility any individual physical therapist assumes in accepting assignments under these Agencies and wishes to help any of its members who accept an assignment to fulfill it completely. Member-Organisations know that not all who express an interest or even apply for an overseas post are qualified for it either by experience or in personality; therefore, the extraordinary demands should be made known to them.

APTA Members

In accordance with the above the APTA asks that all members interested in assignments under WHO, the Social Economic Council, and other agencies, write to the National Office for details. It is vitally important to the effectiveness of the World Confederation program in cooperation with WHO that physical therapists accepting posts have all personal and professional qualifications needed as judged by their own professional organization. The support and counsel of their association during their assignment will

prove invaluable in the execution of their work to the profession.

Canadian Physiotherapy Association

Training Courses in Canada.—Since the publication in 1955 of the brochure regarding courses of training accepted by member countries of the World Confederation, two new courses have been approved by Canada. One at the University of Alberta, which offers a Diploma in Physiotherapy and one at the University of Montreal, which offers a Diploma in Physical and Occupational Therapy. The latter is a French Canadian University where much of the teaching is in the French language. First graduation from the University of Alberta was held in Alberta in September 1956 and the first graduation from the University of Montreal will be held in May 1957.

Professional Test

1. The original name of the American Physical Therapy Association was
   a. The American Physiotherapy Association
   b. Women's Physiotherapy Association
   c. American Women's Therapeutic Association
2. The first president of the founding organization to the APTA was
   a. Mary McMillan
   b. Gertrude Beard
   c. Colonel Emma Vogel
3. The total membership in the Association is
   a. 5,023
   b. 7,832
   c. 6,758
4. The 1957 Conference will be the
   a. 25th
   b. 34th
   c. 37th
5. The largest assembly of professional physical therapists gathered at
   a. the Los Angeles Conference in 1954
   b. the First Congress of The World Confederation for Physical Therapy in London
   c. the Second Congress of the WCPT in New York
6. A Life member of the Association must be retired from the practice of physical therapy and must have been an active member for
   a. 50 years
   b. 30 years
   c. 20 years
7. An interested physician, lawyer, or hospital administrator who has been helpful to a chapter or district may be elected to
   a. Active membership
   b. Associate membership
   c. Inactive membership
8. Honorary membership is limited to
   a. Active members
   b. non-members
   c. persons who have made an outstanding contribution to the physical therapy profession
9. Chapter bylaws must conform with
   a. adjacent chapters' bylaws
   b. a component district's bylaws
   c. the APTA Bylaws
10. The president of the APTA is elected by
    a. the Board of Directors
    b. the membership through instruction of Delegates to the House of Delegates
    c. the presidents of all chapters
11. Eligible foreign-trained physical therapists are accepted as active members if they hold an immigration visa and
    a. are employed by a member of the medical profession
    b. work under the supervision of an APTA member for one year, attend chapter meetings and successfully pass the APTA examination
    c. have been employed in this country for five years
12. In order to receive the *Review* without interruption, a member who leaves his chapter area to accept another position should notify
    a. his landlady
    b. the National Office
    c. the local postmaster
13. Any member shall be dropped from membership if dues for that year have not been paid by
    a. January 1
    b. July 1
    c. August 1
14. The Board of Directors of the Association has a complement of
    a. 5 members
    b. 9 members
    c. 12 members
15. All legislative powers and authority to determine policies of the Association are vested in and reside in
    a. The Board of Directors
    b. The Executive Staff
    c. The House of Delegates.

Answers will be found on page 403.

Association Activities

Elizabeth Ursula Saur of Sabastopol, California, an Inactive member of the Association, passed away recently. Miss Saur was a graduate nurse, having trained at St. Mary's College of Nursing, San Francisco, and received her physical therapy education at Stanford University in 1942 as an emergency course participant. She served in the United States Army from 1943-1945 and was for several years a member of the physical therapy staff at St. Mary's Hospital in San Francisco. Miss Saur, a member of the Northern California Chapter, had been a member of the Association since 1942 and became an Inactive member in 1955.

Chapter News

Michigan—Western District

On April 27 the District sponsored a one-day Neurology Review presented by University of Michigan Staff members. As one of the District's contributions to the Detroit Conference, a workshop was held on May 11 for the purpose of preparing decorations. A box lunch and District meeting completed the day's activities.

Ohio

The Ohio Chapter recently surveyed its membership with regard to personnel policies. Response from 66 per cent of the membership revealed that policies in effect in Ohio compared favorably with those reported by the APTA survey which was also conducted in 1956.

The Ohio newsletter, Physioscope, reports that "while 71 per cent feel the salary is not proportionate with the cost of living, and 42 per cent feel the salary is not adequate to meet the cost of living, 83 per cent of the members would choose this field again."

Pennsylvania—Western District

The April 1957 newsletter includes a one-page questionnaire to permit members to express their wishes regarding study seminar groups and district activities for 1957-1958. Items included in the questionnaire are preference for week nights, week ends, season of the year; length of program, number of sessions; topics, six suggested with opportunity to suggest others; opportunity to suggest topic and speaker for monthly meetings; preference for suggested social events; and an opportunity to express willingness to serve on one of six committees.

Washington Chapter

At the April meeting time was given to a report on "Supervision of the Hospital Physical Therapy Department," a presentation given at the AHA-APTA Institute for Physical Therapists last November. The annual business meeting, committee reports, election of officers, and the showing of two films completed the program. The Washington Chapter has accrued $116.52 toward the 1958 Conference Fund.

Wisconsin

From the March, 1957 *Newsletter*:

Recruitment

I was nervous; I fretted and worried awhile,
But I went into action with a prayer and a smile.
Armed with a film strip and a pamphlet or two,
I told and I showed them what therapists do.
They listened with interest and a few I could see
Were anxious to learn even more of P. T.
I answered their questions about training and all,
(I'd not be surprised if some came here next fall.)
Before I was finished, I certainly tried
To explain our true feelings of professional pride.
Warmed to my subject, I told of the fun
And great satisfaction of a treatment well done.
In using examples of patients I knew,
They felt the excitement of accomplishments too.
So though I'm no speaker, I'll never regret
My day of recruitment at the school in Poynette.

JOAN BISSONNETTE

New Student Members

Boston University

Victor Mailloux

University of Connecticut

Nancy Bowen
Sarah LaFountain
Barbara H. McKinney
Dixie Lee Redlon
Ann Schulz
Virginia Story
Anna J. Sutherland
Carmine Vicenzo
Maxine Watts

University of Southern California

Bunnie Jo Teilborg

FLORENCE S. LINDUFF

Association Member Receives Exceptional Service Award

Mrs. Florence S. Linduff, chief of physical therapy in Veterans Administration central office at Washington, D. C., has been honored with a cash award for exceptional service to medicine.

She compiled and revised a section of the VA manual for medical examiners dealing with the human body's joints and joint motions.

VA said Mrs. Linduff's contribution not only will be of assistance to rating boards, it also will aid in the training of orthopedists, neurologists, physiatrists, and other physicians, as well as physical therapists.

Mrs. Linduff's physical therapy unit is part of the Physical Medicine and Rehabilitation Service of VA's Department of Medicine and Surgery.

She has been a member of the American Physical Therapy Association since 1937 and served as Chairman of the Nominations Committee in 1954-1956 and on other National and Chapter Committees in addition to being President of the Metropolitan District of Columbia Chapter in 1948-1949.

Mayo Clinic School of Physical Therapy Alumni

The Alumni Association of the Mayo Clinic School of Physical Therapy will hold its annual meeting August 23-24, 1957. Program topics to be presented by physical therapists, occupational therapists, and physicians include "Evaluation of Hip Extension and Clinical Application," "Assistive Devices," "Active Stretching Techniques," "Panel on Ultrasound," "Physiological Basis for Neuromuscular Facilitation," and "Muscle Transplants." A banquet will terminate the two day session. The registration fee for the program session is $1.00 and banquet tickets will be available at $3.00 per person.

Marriages

Mary Agresti, of Los Angeles, Calif., now Mrs. Mary A. Rosnau, Los Angeles.

Rosemary Barbara, of Duluth, Ga., now Mrs. Rosemary B. Braun, Atlanta, Ga.

Lt. Betty Bates, of APO 757, N. Y., now Lt. Betty Bates McCord, APO 757, N. Y.

Joanne Crow, of Fort Worth, Tex., to Melvin Tilly, Fort Worth.

Edna Darrow, of San Francisco, Calif., now Mrs. Edna D. Castillo, San Francisco.

Caryl Dautch, of Buffalo, N. Y., to Abraham Polonsky, Thornton, Colo.

Delores Day, of Chicago, Ill., Now Mrs. Delores D. Larsen, Chicago.

Fern Green, of Midland, Tex., to F. H. McGuigan, Midland.

Barbara Greenstein, of Brooklyn, N. Y., to Chester Deutsch, White Plains, N. Y.

Marjorie Hoff, of Detroit, Mich., now Mrs. Marjorie H. Kill, Detroit.

Marjorie Lilga, of Petoskey, Mich., to B. G. Haugen, Petoskey.

Capt. Olive J. Potter, of Travis AFB, Calif., now Capt. Olive P. Ridenour, Travis AFB.

Nadine Powell, of Denver, Colo., now Mrs. Nadine P. Simonds, Denver.

Marie Rieman, of Akron, Ohio, now Mrs. Marie R. Abraham, Akron.

Major Miriam Rodenberger, of Valparaiso, Fla., to Lt. Col. Howard W. Bender, Valparaiso.

Marilyn Scheller, of Boston, Mass., to William S. Elias, Ballardvale, Mass.

Mary T. Schneider, of Scarsdale, N. Y., to Gerard L. McCoy, Jr., Scarsdale.

Orvetta Searfoss, of Lakewood, Ohio, now Mrs. Orvetta S. Vander Hule, San Luis Obispo, California.

Helen Sommers, of Albany, N. Y., to Forrest N. Case, Jr., Albany.

Ellen Teberg, of Lincoln, Neb., now Mrs. Ellen T. Zobel, Lincoln.

Elizabeth Thompson, of Milton, Mass., to Norman E. Hansen, Boston, Mass.

Mary Ann Udovich, of Chisholm, Minn., now Mrs. Mary U. Malensek, Chisholm.

National Library of Medicine

With this issue of the *Review* abbreviations of the names of journals in current medical literature will follow the style established by the National Library of Medicine, Washington, D.C.

The 1956 AHA-APTA Institute in Retrospect

Helen Blood, B.S.

Have you often wished that you knew more about hospital organization, administration, budgeting, financing, or record keeping? Have you sought to determine what is the legal responsibility of the administrator, the physician, the physical therapist, and the patient? Or have you wondered how other hospitals, clinics, and rehabilitation centers are utilizing their professional and nonprofessional personnel and integrating this with an in-service training program? If you are a supervisor, have you been concerned with the new concepts of departmental and interdepartmental relations? Furthermore, have you found frequently that the resources within your hospital or clinic are not adequate and have questioned where you should turn for assistance for yourself or your patient? Or have you kept abreast of the changes in medicine and its allied fields and wondered if your anticipations for the future of physical therapy will be realized?

It is recognized that you can secure the answers to your questions or problems as they arise; but are you ready to meet the challenge of the situation as it confronts you? The American Physical Therapy Association and the American Hospital Association anticipated the needs of physical therapists in coping with new situations as their role in the professional field unfolded. Therefore institutes for learning, discussing, reviewing, and evaluating these needs have been planned through the joint efforts of these two organizations.

I had been familiar with the organizational plan of the institutions where I have been employed, but it was revealing to know that there are certain basic concepts that are inherent to the organization and administration of all business. Also, there are certain characteristics that are peculiar to the organizations related to patient care, and yet there are characteristics in common with business organizations.

That most departments have a budget within which they operate and that the recommendations from the physical therapy department are considered in the preparation of a budget was not new to me. Direct operational cost of departmental maintenance can be determined without too much difficulty. But hidden costs—what are they and how do they affect us in our operation? It was most interesting to learn what is considered in the category of hidden costs and to know that they as well as the direct costs must be taken into consideration in arriving at the total cost. This in turn is the basis for determining the yearly budget of a physical therapy department in proportion to the total operation cost of the institution.

Records and reports are certainly not foreign to any one of us. They are a necessary and important function of every department in an institution, but I wonder if we are still keeping records in accordance with the traditions that have been established. An appraisal and evaluation of our present methods in light of some of the newer, more efficient methods may be enlightening. Such an analysis may lead to the integration of many operations into one simple procedure. Certainly simplification is the order of the day for procedure that relates to charges, bills and statements.

Beside the mechanical phase of records as it relates to business operation, record keeping is becoming increasingly important for legal purposes. We need to know what should be included in our notations; that which is pertinent and that which is superfluous. The increase in professional liability insurance rates and the involvement of professional personnel in malpractice suits has reached such proportion, that each of us must concern himself with the medicolegal aspects of our work.

With an increasing patient load, I find that I am constantly searching for ways to meet the demands. I know that this problem is not peculiar to any given area of the country. The utilization of professional and nonprofessional workers is almost universal. There are certain criteria that must be considered in their selection and placement. Orientation and identification of job responsibilities must be observed in utilizing both types of workers. A further consideration must be given to the education of our physicians in knowing the role of the professional and the nonprofessional worker.

I can and have asked myself many questions about what qualities make for a good supervisor. This is of universal concern to each member of our profession because practically every physical therapist is involved in supervision to

Helen Blood, Physical Therapy Consultant, Utah State Department of Health, is a member of the Advisory Committee on Chapter Activities and served as a Group Leader at the San Francisco AHA-APTA Institute for Physical Therapists.

some degree, whether it be supervising or directing the activities of a patient or assuming the responsibility for the operation of a department. There are certain skills and technics that each of us can acquire to direct the activities of others more effectively.

With the ever increasing concept of treating the patient as a whole person rather than as an arm, leg, or back, the physical therapist must know and use the resources that are available outside of his own department. In many cases community resources need to be explored and used in the care of patients. The exploration of resources by the professional person should not end with meeting the needs of his patient; but should continue until he knows of the valuable sources that are available to him to enhance his own background.

As we review our role in the past and recognize our present status, we can see that physical therapy has and is continuing to advance rapidly. Medical advances have relieved our responsibilities in some instances, but have substituted new and increasing challenges for us to meet. We must plan, prepare, and adjust ourselves to be ready for these challenges.

It is stimulating to know that such a complete and comprehensive program as the one I have described is available to physical therapists. Certainly, each one of us should know of this "Institute for Physical Therapists" and plan to attend. The American Hospital Association and American Physical Therapy Association have scheduled a rotation plan so that the physical therapist can take advantage of the institute when it reaches his section of the country. The new concepts, the reaffirmation of some of my present ideas, and the aspiration that I hold for the profession of physical therapy, were well integrated in the program of this institute.

Watch future issues of the *Review* for information on this year's AHA-APTA Institute for Physical Therapists to be held in Boston, November 4-8, 1957.

Association Board Supports Polio Vaccination

The Board of Directors of the American Physical Therapy Association in common with authorities of many other professional health agencies has put the Association on record as supporting the campaign to protect citizens from polio. The following was therefore adopted on March 21, 1957.

Resolution

WHEREAS, The American Medical Association has stated that poliomyelitis vaccine is both safe and effective; and,

WHEREAS, The American Medical Association has stated that everyone should be encouraged to be vaccinated, particularly those under 40; and,

WHEREAS, Inertia and apathy are deemed primarily responsible for the failure of large segments of the public to be vaccinated;

WHEREAS, A large percentage of physical therapists now actively engaged in the practice of this profession are under 40 years of age and are presumed to be susceptible to poliomyelitis, therefore, be it

RESOLVED, That the American Physical Therapy Association adopt a resolution respectfully suggesting to its members the following:

1. that each physical therapist protect him/herself from paralytic poliomyelitis by taking all three vaccine inoculations, properly spaced;
2. that each physical therapist encourage other residents of the community to take the vaccine and give confidence in its effectiveness;
3. that each physical therapist volunteer his/her services, insofar as possible, to promote the immunization of all residents in the community, particularly those under 40; and,
4. that every physical therapist cooperate with the local press, the County Medical Society, and/or the local chapter of the National Foundation for Infantile Paralysis in telling the community of their approval.

Letter to the Editor

To the Editor:

An article which appeared in the *Physical Therapy Review* in the last year ("Recovery of Power in Leg Muscles Following Poliomyelitis," Palmer and Martz, July, 1956) adds to the information in the literature on the recovery of muscle function following poliomyelitis. The authors' analysis of test data and observations on manual muscle testing procedures raise some questions which seem to re-appear from time to time and are thus deserving of comment.

After reporting on a series of muscle test records over a 10-year period, the authors state, "While our purpose was to evaluate the results of muscle tests, it became apparent that the methods themselves were occasionally productive of error." This observation was made on the basis of variable "human" factors which enter into the tests such as moods, distractions, and identification of the therapist with the patient, as well as difficulties in applying sufficient test force to very strong muscles. Such disappointment in the tests is likely to result whenever an attempt is made to place definite quantitative evaluation on the grades which the originators of the tests never intended and which experienced physical therapists recognize is unjustified. In this instance as the study progressed and the authors became better acquainted with testing procedures, they recognized that manual muscle testing has certain "inherent" limitations. The authors did well to make these observations and to point them out in their report. Whether or not one agrees with the specific items mentioned, it is true that there are likely to be variables in any testing method which is based on volitional effort. However, perhaps the quarrel should not be with the tests themselves, which have received careful study over a long period of years, but rather with an unrealistic interpretation of the grades.

This point deserves emphasis, as there is a natural tendency to interpret grades in general as straightforward arithmetical quantities. In the case of manual muscle testing this can lead to misunderstanding. While number grades were not used in the article under question, an impression of graded step intervals is obtained from graphs in which muscle strength is recorded in equal steps from trace to normal. Perhaps no harm is done if the reader reminds himself that in terms of measurable force the intervals from fair to normal actually are very much greater than those from fair to trace. This is particularly true of non-weightbearing tests of muscles controlling the foot, as this segment is relatively small and offers little resistance in an anti-gravity test (fair). In interpreting such graphs, the reader must also remind himself that the interval from fair to normal varies with each muscle group. For example, lifting the head in the supine position (fair) may require about one-third of the maximal force of the neck flexors (normal) while flexing the forearm against gravity may require only about one-sixteenth of maximal elbow flexion force and extending the leg (non-weightbearing test) may require an even smaller fraction of normal quadriceps force. Dynamometer measurements indicate that if manual muscle tests and grades are to be interpreted quantitatively, each movement must be treated as an individual case, based on the weight of the part and the maximum available muscle force normally available to lift it.

This concept puts into perspective such a statement as (in the case of postoperative muscle transplants), "the average power loss for all muscles transferred was 1.85 grades." Is the exactness of such a figure as this warranted by the nature of the tests? Quantitatively, it would make a considerable difference whether a muscle or muscle group dropped from normal or from fair. Assuming the surgeon would not elect to transplant a muscle graded below normal or good, a drop of this dimension is great indeed. A more basic question here is how accurately can a comparison be made of manual test grades given to a *muscle* (rather than a motion) before and after its surgical transfer? Changes in tension and leverage, and the presence of possible surgical trauma render the new environment quite different from the old.

An "inherent" variable mentioned was the difference in strength of the patient's muscles as compared with those of the physical therapist, particularly in situations where the muscle group being tested was able to resist any force the examiner could produce. This factor, reemphasized by Beasley,* helps to explain why manual grading in the upper levels is less reliable than in the range of fair and below. Perhaps in certain instances in which for some reason a more accurate quantitative measurement of strong muscle force is desired, manual testing could be supplemented by dynamometer measurements, although dynamometer testing also presents problems.

Further comment is in order on the author's

*Beasley, W. C. Influence of method on estimates of normal knee extensor force among normal and postpolio children. Phys. Ther. Rev., 36:21-41, (January) 1956.

suggestions regarding other types of tests useful in obtaining "purely objective ratings of muscle power." Direct nerve stimulation with electrical current, aside from being generally impractical, would not give a picture of voluntary neuromuscular performance which is the usual clinical objective in evaluation. The electromyograph is useful in indicating the relative number of muscle fibers which are active in a given muscle contraction. Thus it is a very useful device in the study of motion patterns. However, the action potential record is limited to the specific field of the electrodes. Furthermore, two most important factors in the force exerted by a muscle (in addition to the number of active fibers) are (1) the length of the muscle at the moment of the test, and (2) the angle of pull of its tendon. Thus the whole story of joint torque can never be told by the electromyograph.

Manual muscle testing still appears to be the most practical method for clinical evaluation of patients. Trouble is less likely to arise with manual muscle testing methods per se than with attempts to quantitate the grades obtained by these methods and to deal with them as measurements more exact than is justified by the circumstances of the tests. Caution should be used in fitting grades of this nature into an arbitrary numerical framework. The best course is to become familiar with the kinesiological and mechanical factors involved in the individual tests and to interpret each grade realistically in terms of the function of the part.

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Stanford University

Index to Current Literature

AMPUTEES

Evaluation of the Transmetatarsal Amputation in Patients with Diabetes Mellitus. Frank C. Wheelock et al, Surgery, 41: 184-189, February 1957

Upper Extremity Pylon: Case Report on a New Device for Facilitating Crutch Walking. Jack L. Linden, Arch. Phys. M., 38: 88-89, February 1957

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Strength of Human Compact Bone Under Repetitive Loading. F. G. Evans and M. Lebow, J. Appl. Physiol., 10: 127-130, January 1957

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Acute Arthritis in the Adult: Diagnosis and Treatment. Mark W. Garry, Am. Practitioner, 8: 228-233, February 1957

Aortitis with Aortic Valve Insufficiency in Rheumatoid Arthritis. Jonas Valaitis et al, A.M.A. Arch. Path., 63: 207-212, March 1957

Meprobamate (Miltown) in Rheumatic Diseases. Richard T. Smith et al, J. Am. M. Ass., 163: 535-537, Feb. 16, 1957

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Health Career Planning in High School: One Community's Program. E. Goeffrey High, Hospitals, 31: 45-47, Mar. 1, 1957

Introduction of the Concept of Comprehensive Medicine into the Curriculum. Conwell Pye et al, J. M. Educ., 32: 210-214, March 1957

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The Place of Anatomy in an Expanding Medical Curriculum. C. P. Martin, J. M. Educ., 32: 215-227, March 1957

ELECTRODIAGNOSIS AND ELECTROTHERAPY

Effect of Electrotherapy on Some Mechanical Properties of Denervated Muscle. J. D. Thomson, Am. J. Phys. M., 36: 16-20, February 1957

Present Status of Ultrasound in Medicine. Fritz Friedland, J. Am. M. Ass., 163: 799-802, Mar. 9, 1957

The Theory and Practice of Electrodiagnosis. A. T. Richardson and C. B. Wynn Parry, Ann. Phys. M., Lond., 4: 3-16, February 1957

Muscle Shortening Produced by Ultrasound. Jerome W. Gersten, Arch. Phys. M., 38: 83-87, February 1957

HEART AND CIRCULATION

An Apparatus for Buerger's Exercises in the Home. J. B. Jessiman, Ann. Phys. M., Lond., 4: 26-28, February 1957

Buerger's Disease. David M. Sensenig and B. J. Morson, Am. J. Nurs., 57: 337-343, March 1957

Measurement of Heart Rate in Exercise. W. S. T. Austin and E. A. Harris, Q. J. Exp. Physiol., Lond., 42: 126-129, January 1957

Study of Cardiac Output During Rehabilitation Activities. F. J. Kottke, J. N. Danz and W. C. Kubicek, Arch. Phys. M., 38: 75-82, February 1957

(continued on page 408)

Procedures for the Assignment of Physical Therapists for Poliomyelitis Emergencies

Adopted by American Physical Therapy Association (APTA) and the National Foundation for Infantile Paralysis (NFIP) on April 1, 1957 for assignment within the United States.

The following Procedures for the Assignment of Physical Therapists apply when NFIP chapters are expected to participate in payment of salaries of physical therapists needed for the treatment of poliomyelitis patients. Consultant service will be made available by APTA.

The NFIP and APTA desire to assist in seeing that all of the hospital's* polio patients receive adequate physical therapy service. However, every effort must be made to assure the most effective use of physical therapy personnel.

Assignment service for physical therapists for temporary work with polio patients will be given by the APTA upon written request of the administrator of the hospital and approval by the NFIP state representative.

This assignment service is available in times of emergency caused by the incidence of poliomyelitis. It is applicable to acute and immediate post-acute care and not to long-term or convalescent-type care.

I. Assignment

A. The need for temporary assignment of physical therapists must be determined by the hospital administrator in consultation with the NFIP state representative.

B. The hospital desiring to employ physical therapists will be expected first to utilize available or transferable personnel within the community.

If the hospital expects the NFIP chapter to underwrite any portion of a physical therapist's salary, the APTA must be notified on application form, PRS-2 of the names and assignment dates of all physical therapists obtained.

C. If the staff cannot be augmented as described, the administrator of the hospital may submit the application form, PRS-2 to the NFIP state representative for approval. This will then be forwarded to the APTA, 1790 Broadway, New York 19, N. Y. Copies of this form may be secured from the state representative or the APTA.

D. All requests under "C" will be given consideration but before a physical therapist is assigned, the hospital requesting assistance will be expected to supply written evidence of the need.

The APTA, to assure an equitable distribution of personnel throughout the country, will evaluate evidence submitted and other data available to them. This, it is recognized, may then result in delay or denial of some requests because of the problem of supply and demand to be met.

II. Qualifications

A. Physical therapists with one or more of the following qualifications will be referred to temporary positions:

1. A graduate of a physical therapy school approved by the Council on Medical Education and Hospitals of the American Medical Association.
2. A member of the APTA.
3. A senior member of the American Registry of Physical Therapists (ARPT).

III. Employment and Personnel Policies

A. Physical therapists assigned by the APTA become employees of the hospital to which they are assigned. *Neither the National Foundation nor the American Physical Therapy Association is the employer of these physical therapists.* It is the responsibility of the hospital to orient physical therapists to the hospital program.

Since these physical therapists will be employed by the hospital, it is expected that the privileges of sick leave and state workmen's compensation,

*These procedures cover service to agencies as well as to hospitals. Wherever the word "hospital" is used, the word "agency" may be substituted.

if extended to the professional staff employed regularly by that institution, will be extended to assigned physical therapists.

Assigned physical therapists are considered temporary employees and are not entitled to vacations with pay.

B. Length of temporary service.

Physical therapists assigned by the APTA from outside the community agree to serve for a minimum period of 3 months, though, they may be released at an earlier date, if no longer needed.

Requests for an extension of the temporary assignment period, not to exceed an additional three months, must be supported by written evidence of continuing need. This justifying information must be filed with the state representative of the NFIP together with form, PRS-2E for his approval and, further transmission to the APTA. Form PRS-2E and the justifying information must be received by the APTA at least 10 days before termination of the original assignment period. The APTA will evaluate and decide on the possible extension of the assignment.

NOTE: The NFIP will not underwrite return transportation of a physical therapist who stays beyond the original assignment period unless an extension has been granted.

C. Hours of work:

The physical therapist shall work the regular institutional hours of the hospital to which he or she is assigned. Not less than 40 hours and not more than 48 hours of duty per week is considered a reasonable work week.

D. Salaries:

Assignment salaries have been determined by NFIP in consultation with APTA.
They are:

1. $250.00 per month for new graduates.
2. $300.00 per month for physical therapists on staff assignments and working under the guidance of a qualified physical therapist with experience.
3. $350.00 per month for physical therapists on assignments where they are working without the support of other qualified physical therapists.
4. Physical therapists obtained locally for part time work may be paid a prorated salary, based on the above classifications.
5. In certain situations it may be necessary to assign a physical therapist who has special qualifications in preparation and experience. In such circumstances decision upon the amount of the salary will be made by the American Physical Therapy Association in conference with the Medical Department of the National Foundation for Infantile Paralysis' headquarters.

The APTA will make decisions on an individual basis as to which of the above salaries should be paid to any assigned physical therapist.

Payment of salary should be made by the hospital in accordance with the regular pay period for professional staff in that hospital. The physical therapist's salary shall start at the time of reporting on duty, but, in any event, not later than 24 hours after reporting his arrival to the hospital.

Physical therapists assigned for a 3-month period, who are released by the hospital prior to the completion of assignment, shall receive one week's notice or one week's salary. However, physical therapists leaving assignments of their own accord prior to completion of 3 month's service, shall be paid through the last day of service.

The hospital shall pay its established starting salary to any assigned physical therapist. If such personnel are not regularly employed, the administrator and the state representative, with the advice of the APTA, shall arrive at a rate to be paid by the hospital which is consistent with practice in the area. NFIP chapters will reimburse the hospital for the difference between its salary payment and the full assigned salary.

In the event that a hospital certifies its inability to pay its share of the salary for assigned physical therapists, including a written statement of reason therefor, the hospital or agency requesting the assignment will utilize the prescribed procedure for application for a grant from the Epidemic Aid Fund to meet this need. This request will be decided by the NFIP Medical Department, National Headquarters, prior to assignment of any requested physical therapists.

NFIP chapters will not reimburse hospitals for any portion of physical therapists' salaries unless physical therapists have been processed by use of form PRS-2 or PRS-2E through the application and assignment procedure, as outlined herein.

E. Withholding tax, Social Security and insurance:

Federal income tax on salary and maintenance of assigned physical therapists, as for other hospital employees, will be withheld by the hospital

according to government regulations. At the termination of employment, the hospital will furnish withholding tax statements to assigned physical therapists.

Social Security coverage is subject to the policy in practice in the hospital, and to government regulations. Any questions regarding Social Security should be referred to the hospital administration.

The NFIP has insurance coverage for assigned physical therapists who contract polio. This insurance covers medical and hospital expenses, within limits, as well as a weekly indemnity for a specified period. If a chapter participates by subsidy in any part of a physical therapists' salary, form PRS-2 must be processed as outlined herein and only by this procedure will a physical therapist qualify for eligibility for insurance coverage in case of contracting polio.

The hospital is expected to notify NFIP, Medical Services Division, 120 Broadway, New York 5, N. Y., upon the admission and diagnosis of poliomyelitis of any such personnel.

F. Maintenance:

1. Physical therapists assigned from outside the community should receive maintenance to include lodging, meals, and laundry of uniforms at the hospital, if at all possible.

   If suitable living facilities are available at the hospital, assigned physical therapists are expected to utilize these facilities.

   The NFIP chapters are authorized to reimburse the hospital for the actual cost of such maintenance, but not to exceed $100.00 per month.
2. When suitable maintenance is not available at the hospital for physical therapists assigned from outside the community, allowance of $100.00 per month will be paid to each physical therapist by the hospital to be applied toward her maintenance costs as partial compensation for living away from home. NFIP chapters are authorized to reimburse the hospital for this monthly maintenance allowance.
   When living accommodations for physical therapists are not available in the hospital, accommodations in the community should be arranged for them in advance by the hospital.
3. Physical therapists assigned to serve in their own community by the APTA, will pay for any meals or laundry received at the hospital, unless the hospital wishes to furnish such services without charge.

IV. Supervision

A. Medical:

No physical therapists will be assigned unless medical direction is assured. All physical therapy must be prescribed in writing by a physician.

B. Physical Therapy:

Recent graduates or physical therapists with no experience in the care of polio patients will be referred only to facilities where qualified physical therapy supervision is available.

If the hospital cannot provide a qualified therapy supervisor, the APTA will assist in obtaining a physical therapist with supervisory experience and ability for the assignment.

Qualified physical therapists may not work under the supervision of an unqualified physical therapist.

V. Travel Expense

A. Travel expense from place of obtainment to place of assignment will be paid by the APTA. Return travel expense to place of obtainment or equitable amount applying to other location will be paid unless the physical therapist—

1. Leaves of own accord prior to termination date of assignment.
2. Leaves assignment for vacation, holiday, or any unauthorized leave.
3. Remains beyond termination date of assignment without authorization of the APTA.

B. Such travel expense is to include: Cost of plane, bus, or train (including Pullman) accommodations, plus an allowance of $10.00 per day (24 hours) while traveling, in lieu of salary and expenses such as meals en route, taxis, tips, baggage costs, and purchase of travel insurance by the physical therapist. In addition, the cost of lodging, if necessary, between planes, buses, or trains, not to exceed $5.00 per day, will be allowed.

C. If physical therapists travel to their assignments by car, the APTA will pay expenses at the rate of 7¢ per mile. (This should not exceed expenses for travel by plane or train, whichever is greater). When traveling by car, the allowance of $10.00 per day will be allowed only for the same number of days necessary to reach destination by train. Expenses for additional time, because of preference of travel, are to be absorbed by the physical therapist.

D. Travel expense, as outlined, shall be reimbursed by the NFIP headquarters office to APTA.

CONFERENCE 1957

DETROIT, MICHIGAN
JUNE 23-28 · HOTEL STATLER

Business Meetings and Program Schedule

June 20, 21 and 22 — **Board of Directors Meetings**

Sunday, June 23

8:30 A.M. — 5:00 P.M. — General Registration
9:00 A.M. — 5:00 P.M. — Section on Education
Self-Employed Section
Members in Public Health Work

5:00 P.M. — 8:00 P.M. — **Reception**—Michigan Chapter, Host

Monday, June 24

9:00 A.M. — 12:00 Noon — **Delegates' Registration**
9:00 A.M. — 5:00 P.M. — **General Registration**
10:00 A.M. — 12:00 Noon — Group Meetings—Veterans Administration, Crippled Children's Societies, State Examining Committees, Research Group, Arthritis and Rheumatism
2:00 P.M. — 5:00 P.M. — Opening Session—Greetings, President's Address, Keynote Speech: LAYING THE CORNERSTONE FOR LIVING THROUGH GROWING, LEARNING, DOING—Louis A. Schwartz, M.D., Assistant Professor of Psychiatry, Wayne University Medical School
7:30 P.M. — 10:00 P.M. — Discussion of Proposed Bylaw and Code of Ethics Amendments

Tuesday, June 25

9:00 A.M. — 12:00 Noon — **House of Delegates**
2:00 P.M. — 5:00 P.M. — THE CHILD WITH AN ACQUIRED DISABILITY

The Growth and Development of a Normal Child, Louise Bates Ames, Ph.D., Director of Research, Gesell Institute of Child Development, New Haven, Connecticut

The Medical and Psychological Aspects of Childhood Disease and Acquired Disability, Samuel S. Bernstein, M.D., Associate Professor Pediatrics, Wayne University

Attitudinal and Acquired Deformities of the Lower Extremities in Small Children, Francis P. Walsh, M.D., Surgical Staff, Harper Hospital, Detroit

Physical Therapy for the Junior Citizen, Carolyn Bowen, Physical Therapy Consultant, Washington State Department of Health

7:30 P.M. — 10:00 P.M. — **Film Theater**

Wednesday, June 26

9:00 A.M. — 11:30 A.M. — **House of Delegates**
2:00 P.M. — 5:00 P.M. — THE CONGENITALLY DISABLED ADOLESCENT APPROACHING ADULTHOOD

The Normal Adolescent—His Growth and Development, Louise Bates Ames, Ph.D., Director of Research, Gesell Institute of Child Development

A Medical Caseworker Looks at the Physically Handicapped Adolescent, M. Genevieve Blakeley, Executive Director, Detroit Orthopaedic Clinic

Certain Anatomical and Physiological Relations Important for Interpreting Cortical Lesions, Elizabeth C. Crosby, D.Sc., Professor of Anatomy, University of Michigan

What Public Schools Offer to the Handicapped, Anna M. Engel, Consultant, Detroit Association for Retarded Children, Inc.

The Function of the Physical Therapist in Program Planning for the Adolescent Patient, Edward N. Norris, Chief Physical Therapist and Medical Coordinator, Lansing Public Schools, Lansing, Michigan

Wednesday, June 26

6:00 P.M. — 7:00 P.M.	**Reception for Board of Directors**
7:30 P.M.	**Annual Banquet**

Thursday, June 27

9:00 A.M. — 12:00 Noon	A SERIOUS ACCIDENT DURING THE CAREER YEARS The Adult as a Contributing Member of Society, Jerome Pollack, Program Consultant, Social Security Department, United Automobile Workers Functional Anatomy of the Trunk, Meryl Miles, Associate Professor, Department of Anatomy, University of Wisconsin Management of Back Injuries, Henry S. Wieder, Jr., M.D., Assistant Professor of Orthopaedic Surgery, Graduate School of Medicine, University of Pennsylvania and Eugene Michels, Staff Physical Therapist, Graduate Hospital, University of Pennsylvania Vocational Rehabilitation from the Viewpoint of the Employer and the Employee, John J. Lee, Ph.D., Chairman, Department of Special Education and Vocational Rehabilitation
2:00 P.M. — 3:00 P.M.	Amputations in Children, James A. Macdonnel, M.D., Attending Orthopedic Surgeon, Area Child Amputee Program, Michigan Crippled Children Commission. Patient Demonstration
3:30 P.M. — 5:00 P.M.	Original Papers An Analysis of Physical Therapy Careers, Helen J. Hislop, New York, New York The Role of the Physical Therapist in Home Accident Prevention, Richard Zarbock, Dover, Delware Physical Therapy for Whiplash Injuries to the Neck, Hyman Jampol, Los Angeles, California Development of a New Service in a Muscular Dystrophy Clinic, Julius W. Horvath, St. Louis, Missouri Physical Therapy for the Menisectomy, Royce P. Noland, San Francisco, California
7:30 P.M. — 10:00 P.M.	**Film Theater**

Friday, June 28

9:00 A.M. — 12:00 Noon	LIVING FOR THE MATURE YEARS The Physiological and Pathological Foundations of Restorative Medicine in the Aging, Michael M. Dacso, M.D., Associate Professor of Clinical Physical Medicine and Rehabilitation, New York University College of Medicine Physical Therapy in Geriatrics, Geneva Johnson, Chief Physical Therapist, Eugene Talmadge Memorial Hospital, University of Georgia Financial Planning for the Later Years, Helen Randall, Director, Occupational Planning Department, Welfare Federation of Cleveland What Do the Mature Years Offer? Morris Adler, Rabbi, Congregation Shaarey Zedek, Detroit
2:00 P.M. — 5:00 P.M.	**House of Delegates** **Visits to Local Physical Therapy Departments**

A recess will be scheduled each morning and afternoon to visit exhibits.

Conference Facts

Hotel

Not only is the Hotel Statler convenient to all travel terminals, it is also located in the heart of business, theater, and shopping districts. Churches of all denominations are within walking distance. All meeting rooms and many bedrooms are air-conditioned.

Rates

Single rooms and bath begin at $7.00. Rooms with double bed and bath for two and twin-bedded rooms and bath start at $11.50. Suites for two begin at $26.00. For each additional person, more than two, in double or twin-bedrooms, the extra charge is $3.00 a day. Lower rates apply to shower only; tub and shower are higher.

Hotel Reservations

For your convenience in making reservations directly with the hotel, reservation cards will be included in the dues notices. Those persons planning to room together should send in only

one reservation, listing names of all roommates. If a room at the rate requested is unavailable, one at the nearest available rate will be reserved. When single rooms are filled the hotel will assign roommates.

Registration

Active and Inactive Members	$5.00
Student Members	1.00
Other Physical Therapy Students	2.00
Members of Physical Therapy Organizations Affiliated with the World Confederation for Physical Therapy	5.00

Advance registration is encouraged. If you do not register in advance you *must* present your membership card when you register at the Conference. Look for the advance registration card in your dues notice. Advance registration cannot be accepted after June 1, 1957.

Physical therapists who have graduated from approved schools but are not members of the Association may attend the general sessions on presentation of credentials and payment of a registration fee of $15.00.

Exhibits

Technical exhibitors should make application to Gordon M. Marshall, Exhibits Manager, 30 West Washington Street, Chicago 2.
Scientific exhibitors should apply to the American Physical Therapy Association, 1790 Broadway, New York 19.

Film Theater

Films of professional interest will be shown on two evenings during the conference.

Section on Education

PROGRAM

The Section on Education is pleased to announce that Capt. John A. Ey, Jr., U. S. Army Medical Service, Washington, D. C., will present the program for the general meeting of the Section during the Annual Convention, June 23. 1957, in Detroit. Captain Ey was Director of Training and Chief of Instructor Guidance for the Army Medical Service School both in the United States and in Europe before being assigned to his present job with the Historical Unit of the Army Medical Service.

Captain Ey has chosen for his subject "Technics, Methods, and Psychology of Instructing Including Visual Aid Demonstration." He plans to present, by means of lecture-demonstration, the experience of Army Medical Service with respect to advantages and limitations of instructional aids, technics of instruction found to be desirable and acceptable, a review of the pitfalls to be avoided by instructors in presenting their material, and the part some common instructional aids play in teaching and in fostering the better performance of the instructor.

The Program Committee of the Section feels that Captain Ey's presentation, as outlined, will be of interest and of practical value to physical therapists in each of the three major job areas represented in the membership. Knowledge of methods of instructing and the use of visual aids are basic tools for the clinical instructor, the teacher in the physical therapy school, and for the therapist responsible for, or assisting in, the extension of physical therapy and rehabilitation to the public or other professions. Captain Ey's discussion should provide an excellent start in the search for the "Common Ground" between all Section members.

MEMBERSHIP

Membership in the Section on Education is open to any Association member who is (1) an educational administrator, (2) an instructor, (3) short course instructor, (4) in-service program instructor, (5) clinical teacher, or (6) a member who is associated with an educational program.

In order to create a "live" and constructive Section, the Membership Committee is anxious for everyone who is eligible to receive an application. Association members who have not yet received an application for Section Membership and who are eligible, are asked to send in the following information as soon as possible:

I wish to receive an application for membership in the Section on Education of the American Physical Therapy Association—

Name _____

Business Address _____

Chapter _____

Mail to:

Miss Corrine Way
U. S. Public Health Hospital
Lake Street and 15th Avenue
San Francisco, California

Since admission to the meeting of the Section will be by Section membership card only, it is imperative that prompt attention be given all applications. To assist those who have not become members prior to the June 23rd meeting Section Officers will be in Parlor B from 7:00 to 9:00 P.M. Saturday, June 22, to accept applications and breakfast reservations.

Self Employed Section
of the
American Physical Therapy Association

Hotel Statler—Detroit, Mich.

Sunday, June 23, 1957

8:00 A.M. 9:30 A.M. Registration
9:30 A.M. 10:00 A.M. Professional Relations
10:00 A.M. 10:30 A.M. Professional Problems
10:30 A.M. 11:15 A.M. Income Survey
NOON—Executive Committee Meeting
2:00 P.M. 4:30 P.M. Business Meeting

Tuesday, June 25, 1957

Luncheon

Group Meetings of Physical Therapists

Arthritis and Rheumatism

R. W. Lamont-Havers, M.D., Associate Medical Director of the Arthritis and Rheumatism Foundation, will discuss recent developments in the field of arthritis and rheumatic diseases at a meeting scheduled for the morning of June 24. Physical therapists associated with ARF chapters and other interested members are invited to attend.

Research Group

Jacques P. Gray, M.D., Visiting Lecturer on Medical Writing, American Medical Writers' Association; and Medical Consultant to Parke, Davis and Company, Detroit, Michigan, will present an opportunity for physical therapists to broaden their knowledge of medical writing. All interested physical therapists are invited to attend this lecture. The group will also discuss plans for future meetings of physical therapists interested in research.

Societies for Crippled Children and Adults

Physical therapists employed in Societies for Crippled Children and Adults are invited to meet with Louise Bailey, Physical Therapy Consultant, National Society for Crippled Children and Adults, Inc., on Monday morning, June 24.

State Examining Committees

Problems of administration of existing registration or licensure laws governing the practice of physical therapy will be discussed at the meeting scheduled for Monday morning, June 24. Representatives designated by the chapters or representatives of the various State Examining Committees are urged to attend.

Veterans Administration

All members who are employed by the Veterans Administration are invited to meet with Mrs. Florence S. Linduff on Monday morning, June 24.

Members in Public Health Work

The meeting to be held in Detroit on Sunday, June 23, will be divided into two parts: the first will be an organizational meeting in which the proposed Rules will be presented by the Committee; the second part will be a workshop in which all of the members will participate.

All members of the American Physical Therapy Association or any member concerned with physical therapy in a public health setting is urged to attend this meeting. The meeting will be of particular concern to anyone employed by a public or private agency or institution, giving direct or indirect service in the capacity of an administrator, consultant, educator, supervisor, or staff physical therapist.

Welcome

For the past six months we have been talking about getting to Michigan in June of 1957—and now the time has come!

Are you ready to join the Motorcade to Michigan?

Do plan to arrive in time to join the fun at the Mixer Get-together on Sunday afternoon. This is the place to greet old friends, and meet new ones. Plans for this, Our Motor Tune-up, are completed, and should set us on our Route for the rest of Conference.

Plan too to attend the annual banquet. This has come to be a memorable tradition of our annual meetings when we all sit down together in a gala mood and when your host chapter always comes up with a surprise in the way of entertainment. We have a surprise or two up our sleeves

One of America's outstanding approaches to the housing of local government functions is Detroit's new City-County Building. The 20-story white marble tower and slab is one of the architectural units of the impressive Civic Center which is taking shape along 72 acres of Detroit's downtown riverfront.

this year too. We promise at the same time to continue your education when the speaker's topic at the banquet will be in the field of anatomy—Bovine Anatomy. Our speaker, who has been cited as one of the "immortals" of Michigan State, is to be Professor James Hays who is widely known as a lecturer and is sought as an entertainer from Maine to California.

Michigan has been busy growing apple blossoms, polishing cars, and getting all its many vacation spots ready for *your* arrival—and so we bid you WELCOME!

19 MICHIGAN 57

M-2-M

WATER WONDERLAND

Conference Speakers

Elizabeth C. Crosby, D.Sc., Professor of Anatomy, University of Michigan, is a neuroanatomist of distinction whose work has achieved recognition in this country and abroad. Dr. Crosby received the Ph.D. degree at the University of Chicago, and later studied at University College in London and at the Central Institute for Brain Research in Amsterdam. She was awarded the Doctor of Science degree at Adrian College, Michigan, in 1939. Dr. Crosby has been the recipient of the Cajad Society Citation presented by the American Association of Anatomists; the Achievement Award, American Association of University Women; and the Distinguished Faculty Achievement Award, University of Michigan. She is an Honorary member of the American Neurological Association and a member of many other professional organizations. Dr. Crosby's contributions to the literature on neuroanatomy is extensive and includes author ship of several testbooks. She has given numerous lectures in this country and Europe. At the Detroit Conference Dr. Crosby will discuss "Certain Anatomical and Physiological Relations Important for Interpreting Cortical Lesions."

Anna M. Engel is Consultant, Detroit Association for Retarded Children, Inc., and serves as a part-time Consultant, Office of Education, Washington, D. C. Prior to her present position Miss Engel was Divisional Director of Special Education, Detroit Public Schools. Miss Engel, a graduate of Wayne University, received the master of arts degree at the University of Detroit and she has participated in special courses in guidance and psychology at Columbia University.

Miss Engel is a member of the International Council for Exceptional Children, the American Association for Mental Deficiency, and the National Education Association. She has been the recipient of the Soroptimist Club award, Woman of the Year; and a Special Award from Wayne University. Miss Engel will discuss "What the Public Schools Offer to the Handicapped."

Helen Randall, Director, Occupational Planning Department, Welfare Federation of Cleveland, is also a Conference Leader, Group Retiremen Program, Republic Steel Corporation. Mrs. Randall, a graduate of Denison University, specialized in guidance and personnel work and earned master of arts degrees at the University of Michigan and the University of Cincinnati.

She is Chairman, Public Relations Committee, American Personnel and Guidance Association; Chairman, Older Workers Section, National Vocational Guidance Association; and a member of the Ohio Guidance Council. Mrs. Randall has contributed to several publications including "Guidance Within the Community," The Year Book of Education-1955; and "Evaluation of Work Performance—The Employers' Viewpoint," Earning Opportunities for Older Workers-1955. Mrs. Randall will have as her topic at the Detroit Conference, "Financial Planning for the Later Years."

GENEVA R. JOHNSON

Geneva R. Johnson is Chief, Physical Therapy Section, Talmadge Memorial Hospital, Medical College of Georgia, Augusta. Mrs. Johnson received the certificate in physical therapy at Lawson General Hospital in 1946 and was a member of the Women's Medical Specialist Corps from 1946-1948. After discharge from the Army, Mrs. Johnson served as a physical therapist at the State University of Iowa and Mercy Hospital, Iowa City. In 1951, she was recalled to service in the Women's Medical Specialist Corps and served until 1954. Prior to accepting her present position Mrs. Johnson was Co-ordinator and Supervisor, Rehabilitation Unit, Baylor University College of Medicine. Her topic on the Conference program in Detroit will be "Physical Therapy for the Aged."

JEROME POLLACK

Jerome Pollack is Program Consultant, Social Security Department, United Automobile Workers Union, Detroit, Michigan, and is widely recognized as an authority in planning and evaluating health and welfare programs. Before coming to the UAW, Mr. Pollack served for a number of years as statistician at the Railroad Retirement Board, specializing in disability, retirement, and survivor benefits. He completed a survey of work accidents in the railroad industry, and was major author of the two volume report, "Work Injuries in the Railroad Industry." He is author of many articles and is an active program speaker on rehabilitation, social security, workmen's compensation, disability insurance, and health. Mr. Pollack has been active on the Workmen's Compensation Committee of the President's Committee on Employment of the Physically Handicapped. He is a Fellow of the American Public Health Association and is a member of the Executive Committee of the Association of Labor-Management Medical Care Program Administrators. Mr. Pollack will present "The Adult as a Contributing Member of Society" during the 1957 Conference.

Frank P. Walsh, M. D., is a member of the Active Staff, Harper Hospital, Detroit, and is Associate Surgeon, Childrens Hospital and Detroit Orthopaedic Clinic. He also serves as attending surgeon at Woman's Hospital, St. John's Hospital, and Jennings Memorial Hospital in Detroit. A graduate of the University of Detroit, Dr. Walsh received his medical education at North-

western University. Dr. Walsh is a member of the American Academy of Orthopaedic Surgeons; Fellow, American College of Surgeons; a member of the Clinical Orthopaedic Society and the Detroit Medical Club. During the Conference, Dr. Walsh will discuss "Attitudinal and Acquired Deformities of the Lower Extremities in Small Children."

James A. Macdonnell

On Thursday afternoon, June 27, James A. Macdonnell, M.D., of the Michigan Crippled Children Commission will discuss Amputations in Children. Following this talk children with upper and lower extremity amputations will demonstrate some of the activities which they perform in their daily living. Dr. Macdonnell is a graduate of Loyola University and a member of the American Medical Association, American College of Surgeons, Clinical Orthopedic Society, and American Academy of Orthopaedic Surgeons. Details of the program have been worked out by Mildred Lineberger, Orthopedic Nursing and Physical Therapy Consultant in charge of the Area Amputee Program in Grand Rapids. Jessie T. Waddell, Chief of Orthopedic Nursing and Physical Therapy, Michigan Crippled Children Commission, will serve as chairman of the meeting.

Driving to Detroit?

If you are—perhaps this list of Michigan Restaurants will add to the enjoyment of your trip.

Towns	Restaurants
Adrian	Mannings Country Kitchen—2 miles south at Junction U. S. 223 and State 52.
Algonac	The Algonac Inn—1½ miles west on State 29
	Sid's—9715 St. Clair River Dr.—north on State 29
Alpena	Trading Post Restaurant—South edge on U. S. 23
Ann Arbor	Corner House Restaurant—202 S. Thayer St.
	The Farm Cupboard—5 miles east on U. S. 12
Battle Creek	Harry Babcock Restaurant—44 E. Mich. Ave.
	Bill Knapp's Restaurant—826 Capital Ave.
Bay City	Donald's Fine Foods—401 Center Ave.
Benton Harbor	Holly Grill—213 E. Main St., U. S. 12
Beulah	The Clark House—173 Lake St. on Crystal Lake
	The Cherry Hut
Cadillac	Kelly's Restaurant—U. S. 131 and State 55
	South Gate Restaurant—3½ miles south on U. S. 131 at Junction State 115
Charlevoix	Grey Gables Inn—308 Belineden Ave., 3 blocks off U.S. 31
Clinton	Holiday Hotel Dining Room—6½ miles west on U. S. 112
	Tamerlane Terrace Restaurant—U. S. 112
Curtis	The Driftwood Center—west of State 135
Dearborn	Colonial House—on U. S. 24, 4½ miles south of U. S. 112
	Meyer's Sea Food—22175 Michigan Ave., U. S. 112 near Greenfield Village
Douglas	Tara Center on U. S. 31
Farmington	Saratoga Farms Restaurant—4 miles west on U.S. at 42050 Grant River
Flint	Cromers—500 N. Saginaw St. U. S. 23 and U.S. 10
Frankenmuth	Fisher's Frankenmuth Restaurant on State 83
Galesburg	Inmans Restaurant—400 E. Michigan Ave., on old U. S. 112
Grand Haven	Schulers Hotel Restaurant—Washington and Water
Grand Rapids	Lock's Restaurant—209-13 Monroe
	Schnitzelbank Restaurant—342 Jefferson Ave.
Grayling	Sorensons Restaurant—South edge on U. S. 27
Harbert	Larson's Restaurant on U. S. 12
Harbor Beach	Williams Inn—3 miles south on U. S. 25
Harrison	Surrey House Dining Room—1 block west of U. S. 27
Houghton Lake	Allpine Inn—East on State 18 and 55 in Prudenville
Jackson	Schuler's Country Inn—5 miles east on U. S. 12
Kalamazoo	Chicken Charlie's Inn—U. S. 131
	Bill Knapp's Restaurant on Crosstown Parkway, midway between U.S. 12 and 131
	Gull Lake Hotel Dining Room—midway between Kalamazoo and Gull Lake, off State 89
Lansing	Archie Tarpoff's—124 E. Kalamazoo St.
	Grauer's—1861 House—213 South Grand Ave.
	Sodams Dining Room on U. S. 16 in E. Lansing
	Union Bldg. Cafeteria in Union Bldg. on MSU Campus
Ludington	Hansen's Dining Room—2 miles south on U. S. 31
Mackinaw City	Teysen's Cafeteria—opposite Ferry docks
Manistique	The Surf Restaurant—2 miles east on U. S. 2
Marquette	The Chalet—1½ miles west on U. S.

(continued on page 403)

Conference Exhibitors

Technical Exhibits

AMERICAN HOSPITAL EQUIPMENT SERVICE
Detroit, Michigan

The American Resista Skid Invalid Walkers for Adults and Children and the American Line of Resista Skid Safety Rails for tubs and showers will be displayed at the American Hospital Equipment Service Booth.

THE BIRTCHER CORPORATION
Los Angeles, California

BIRTCHER WILL BE THERE.

S. BLICKMAN, INC.
Weehawken, New Jersey

S. Blickman, Inc., Weehawken, N. J., to display stainless steel physical therapy equipment including the Radcliffe Model stainless steel leg bath with turbine injection, Braddock Model stainless steel contrast leg bath, Stewart Revolving Stool, Howard Instrument Table. Complete information available on fine line of Blickman-Built Hydrotherapy and Physical Therapy Equipment.

THE BURDICK CORPORATION
Milton, Wisconsin

The Burdick Corporation will display their modern line of Physical Therapy equipment. This will include their UT-1 and UT-4 Ultrasonic units, both microwave and conventional short wave diathermy and electrical stimulating equipment. Members are invited to register for the Syllabus, a bi-monthly publication of abstracts from current medical literature.

S. H. CAMP AND COMPANY
Jackson, Michigan

Interesting new products and new developments in the CAMP line of surgical Supports and Appliances. All are designed to achieve better function in meeting the need in your practice. Your patients will appreciate the comfort, quality and low cost to them. See and acquaint yourself with the items on display.

CHATTANOOGA PHARAMACAL CO., INC.
Chattanooga, Tennessee

MOIST HEAT EASILY APPLIED

You are cordially invited to visit our booth. All current Models of HYDROCOLLATOR MASTER UNITS on display. A continuous demonstration for those who are not familiar with the HYDROCOLLATOR.

Sincere thanks to our many therapist users, who have helped us so much in making the HYDROCOLLATOR a standard in your work.

GILBERT HYDE CHICK CO.
Oakland, California

Gilbert Hyde Chick Co. will display the Chick hip exerciser, fits any bed—wood or metal—the Chick combination leg cradle and foot rest and the Foster reversible orthopedic bed.

THE COCA-COLA COMPANY
New York, New York

Ice-cold Coca-Cola served through the courtesy and cooperation of the Detroit Coca-Cola Bottling Company and The Coca-Cola Company.

CONITECH, LTD.
Chauncey, New York

See the universally accepted Technicon-Huxley Chest-Abdomen Respirator as well as a completely new concept which permits respiration with cuirass, by positive pressure or by means of pulsating abdominal belt. With this respirator it is possible to employ combinations of cuirass and positive pressure, or abdominal belt and positive pressure.

D. R. COON COMPANY
Detroit, Michigan

DEPUY MANUFACTURING COMPANY, INC.
Warsaw, Indiana

NECTRAC—motorized intermittent traction at a sensible price. You are cordially invited to inspect this apparatus. NECTRAC is simple yet effective. Thoroughly tested over a two year period. NECTRAC provides the ideal vehicle for the proved and accepted therapeutic method of intermittent traction. Visit our booth for proof in demonstration.

EATON THERAPEUTIC EXERCISE APPARATUS
Warden, Montana

The Eaton Therapeutic Exercise Apparatus combines mobility, tilting table-bed, and pulley weights. This combination enables better functional positioning necessary to administer exercise prescriptions effectively. The unit is time saving for the physical therapist and minimizes physical effort in administering therapeutic exercises. No other known piece of equipment combines all of these features.

ELGIN EXERCISE APPLIANCE COMPANY
Elgin, Illinois

You are cordially invited to inspect THE ELGIN EXERCISE UNIT, and other EXERCISE UNITS. Specifically designed and developed scientifically to meet the varied problems of remedial exercise therapy. Simple functional exercises to the most highly definitive focal exercises may be performed with this equipment with surgical and non-surgical patients.

EVEREST & JENNINGS, INC.
Los Angeles, California

Be sure to see the amazing new Everest and Jennings Power Drive wheel chair. Single push button control—a flick of the finger and you're on your way—any direction you want to go, safely, effortlessly, *independently*.

THE R. D. GRANT COMPANY
Cleveland, Ohio

Alternating Pressure Point Pad Units. Proved clinically helpful in 89 per cent of cases of threatened or existing ulcers (pressure and bedsores). Indicated in cases of long confinement, especially when turning patient is not advisable. The Alternating Pressure Point Pad Unit provides greater patient comfort and reduces nursing care in half.

W. B. HAUSMANN WOODWORK, INC.
New York, New York

HAUSMANN WOODWORK, one of the largest and oldest manufacturers of Physical Therapy equipment and a recognized leader in the field proudly presents its line of precision-crafted Physical Therapy equipment. In addition to its standard line of equipment, HAUSMANN is geared to custom-build equipment from your own blueprints.

HILL LABORATORIES COMPANY
Malvern, Pennsylvania

Hill Laboratories Company will exhibit and demonstrate the HILL TRACTION TABLE equipped for steady or intermittent traction for cervical, thoracic, lumbar, and lower extremity; and the MOBILE HILL APPLICATOR for dry or moist heat automatically controlled to less than ¼°F. and to give temperatures from 90° up to 140° F.

ILLE ELECTRIC CORPORATION
Williamsport, Pennsylvania

HYDROMASSAGE SUBAQUA THERAPY EQUIPMENT. Ille Electric Corporation will demonstrate in Booth 33 how the care of infantile paralysis, arthritis, and other disabling conditions can be greatly improved by the use of Hydromassage Subaqua Therapy Tanks. They will display a Mobile Whirlpool Bath with Mobile Adjustable High Chair and Paraffin Bath.

PAUL E. JOHNSON MFGS., INC.
Chicago, Illinois

A pioneer in the therapeutic lamp field, PAUL E. JOHNSON MFGS., INC. celebrate their fiftieth year of serving the professions. They offer lamps in wattages from 450 to 1450 watts, heavy bases on easy rolling casters, SAFETY-CLUTCH-LOCK Arms, plus penetration GLOLITE Luminious-Infrared Ray Generators.

LA BERNE MAUNFACTURING COMPANY, INC.
Columbia, South Carolina

A new Portable Progressive Resistance and Assistive Exerciser that conditions musculature, aids joint motion and circulation. Permits knee and hip flexion, pelvic stabilization and exercises of trunk muscles. All exercises possible with chest pulley weights and many exercises not previously available in conditioning upper extremities may be performed.

LIEBEL-FLARSHEIM COMPANY
Cincinnati, Ohio

The Liebel-Flarsheim Company cordially invites you to visit the booth in which their latest electromedical-electrosurgical equipment will be exhibited. We ask particularly that you stop and see the L-F BasalMeteR, the first automatic, self-calculating metabolism unit ever offered. Capable representatives will be on hand at all times.

R. J. LINDQUIST
Los Angeles, California

See a demonstration of Stationary Ultrasound Techniques, where constant attention of the therapist is not required. Improved therapeutic results are obtained from multiple-crystal soundheads. "The most important development since the invention of Ultrasound." See also the Chronowave Stimulator, the Chronaximeter, and Desert Sun therapy lamps.

LOGAN, INC.
Los Angeles, California

Displaying two models of portable whirlpools—Clinical and the Arm and Leg model. Equipped with Westinghouse motors; turbine ejectors double for emptying. Both are approved. We will also display our Large Clinical Model, W. P.; and newly designed Ankle Strengthener and Knee Strengthener.

MEDCO PRODUCTS COMPANY
Tulsa, Oklahoma

Featuring the MEDCO-SONLATOR. New concept in therapy by combining muscle stimulation and ultrasound simultaneously through a SINGLE Three Way Sound Applicator. The MEDCO-SONLATOR is a distinct advance in the effectiveness of physical therapy. A few minutes spent in our booth should be of value to your practice.

MUTUAL OF OMAHA
Omaha, Nebraska

Any questions on the APTA sickness and accident insurance plan? Visit Mutual of Omaha's Booth 57 for answers and complete details. Sickness and accidents are inevitable. They happen to everyone. Protect YOUR income now. Comparison will show our plan affords outstanding protection at real economy for APTA members.

PHYSICAL MEDICINE PRODUCTS COMPANY
Kansas City, Missouri

Features two brand new muscle stimulators by PAUST, the manufacturer who has produced more muscle stimulators by far than any other concern. PAUST Model P.T.-6, for general stimulation therapy. PAUST Model P.T.-7-G with galvanic current for denervation, ion transfer, and diagnosis.

PORTO-LIFT MANUFACTURING COMPANY
Lansing, Michigan

The original producer of invalid lifting equipment pioneered the development of bed patient transfer facilities. The sturdily constructed PORTO-LIFT is completely mobile, utilizing easy-to-operate hydraulic action that eliminates physical strain on attendant—ensures smooth and comfortable patient transfer from bed to wheel chair, conventional chair, automobile and bath.

J. A. PRESTON CORPORATION
New York, New York

Showing selected items from our COMPLETE LINE OF EQUIPMENT FOR PHYSICAL THERAPY AND REHABILITATION.

The exhibit features: EXERCISE APPARATUS, Electro-Medical Equipment, Self-Help Devices, CEREBRAL PALSY AIDS, Special Crutches, Canes, WALKERS, DIAGNOSTIC APPARATUS, and Books. Special Equipment for HOME CARE will be shown. Please register for our complete catalog.

RAYTHEON MANUFACTURING COMPANY
Waltham, Massachusetts

The Raytheon Booth features the well known MICROTHERM Microwave Diathermy Unit together with its "deep therapy twin" the Raytheon Ultrasonic Therapy Unit. Also highlighted is the new Raytheon Electrocardiograph, the "ECG with the replaceable heart" and the Microwave Electronic Air Cleaner which removes dust pollen and other allergens from room air.

REHABILITATION PRODUCTS,
DIVISION OF AMERICAN
HOSPITAL SUPPLY CORPORATION
Evanston, Illinois

Selected products from a complete line of equipment. See Tomac and other invalid walkers, new-style crutches, the Tomac "Ankle-Action" Tripod cane, the "new" American wheel chair, an outstanding ultrasound generator, traction equipment, new lightweight gym mat, therapeutic furniture, self-help devices and other items. Available, 110 field representatives.

THE RIES CORPORATION
Pittsburgh, Pennsylvania

Moistaire Heat Therapy Equipment. Safe, comfortable and effective moist heat at *desired* treatment temperature. This physiologically sound procedure increases volume of local blood flow. Applied locally or generally. Used since 1937. Prescribed for acute and chronic low back strains, other industrial and orthopedic problems.

W. B. SAUNDERS COMPANY
Philadelphia, Pennsylvania

You are cordially invited to visit the W. B. Saunders Company booth to examine our books in Physical Therapy and related fields. The new book, THERAPEUTIC EXERCISE, by Williams and Worthingham and the new edition of MUSCLE TESTING by Daniels, Williams and Worthingham are available. See James Ross in our booth.

SPENCER, INC.
New Haven, Connecticut

Spencer Supports are individually designed to prescription needs for men, women or children, to assist in their rehabilitation. You are cordially invited to see examples or to inquire about supports for the specific requirements of your patients. Ask about the Spencer Emergency Service for patients requiring immediate support.

STANLEY PHYSICAL THERAPY EQUIPMENT
AND SUPPLY CO.
Chicago, Illinois

STANLEY PHYSICAL THERAPY Equipment and Supply Co. (S.P.T.) of Chicago. Medical and hospital equipment, physical therapy and rehabilitation equipment. Planning and Design Division. Birtcher, Whitehall, Majestic, Medco, Battle Creek, Everlast, Jacuzzi, Orthopedic, Rajowalt, Dermassage, Duo Trac, Myofasciatron and others. 175 North Wabash Avenue. Phone: St 2-1868. Convention representatives: Arthur E. Wiebe, Betty Ohman.

TECA CORPORATION
White Plains, New York

Inspect and operate the new Teca ELECTROMYOGRAPH with features that simplify the recording of accurate EMG's. Also shown is the Teca Model CH3 for semi-automatic chronaxie tests and strength duration curves. Also see the complete Teca line of professional low volt generators and the Teca ultrasonic apparatus.

THERMO-ELECTRIC COMPANY
Cleveland, Ohio

Dickson Paraffin Baths will be displayed. These Baths, pioneered and developed in cooperation with Cleveland Hospitals, have been in continuous use in these Hospitals for 20 years. Noteworthy features are mahogany mouldings designed for comfort of the patient; double control of the melting element insuring maximum safety; improved patented drain.

TRU-EZE MANUFACTURING COMPANY, INC.
Burbank, California

Demonstrating the new TRACTOMATIC, portable intermittent traction machine. EFFECTIVE, VERSATILE and EXTREMELY ECONOMICAL. Adaptable to horizontal cervical or pelvic traction or vertical cervical traction. Simple to operate and easy adjustable features. Also exhibiting various economical traction sets for home use, supplementing office treatment and aiding in earlier hospital release.

JAY L. WARREN, INC.
Chicago, Illinois

PROFESSIONAL EQUIPMENT AT ITS BEST! Therapeutic Furniture of highest quality, both beautiful and functional. Designed by James A. Bailey with the assistance of many of the nation's foremost Doctors and Therapists. Gated Compression—Professional Type Auditory Training Equipment for the aurally handicapped. Custom built. In use throughout the world.

THE WHITEHALL ELECTRO MEDICAL CO., INC.
Passaic, New Jersey

Demonstration of the Whitehall "One Motor" Mobile Whirlpool Bath. Equipped with a turbine assembly that functions as both agitator and emptying device—two operations, i.e., agitation and emptying, are combined into a single motor driven system. Special plumbing not necessary for installation. Information also available concerning the Whitehall Full Body Immersion (Hubbard) Tank.

ZIMMER MANUFACTURING COMPANY
Warsaw, Indiana

The Hausted Traction aid will be demonstrated both for use in cervical traction and in pelvic traction as well as a great number of new items related to and used in traction.

Scientific Exhibits

ARMY MEDICAL SPECIALIST CORPS, PHYSICAL THERAPISTS SECTION
Washington, D. C.

"The Medical Effects of Nuclear Weapons." Written and pictorial effects of nuclear weapons, demonstrated in order to encourage planning for the role of the physical therapist in the event of disaster with mass casualties.

THE ARTHRITIS AND RHEUMATISM FOUNDATION
New York, New York

"To Help You Help Them." Three-panel exhibit will feature dramatic portrayal of crippled victims of arthritis. Display will also carry photographs illustrating physical therapy and other services to arthritics, sponsored by the Arthritis and Rheumatism Foundation. Descriptive legends to accompany photographs.

CHILDREN'S BUREAU, U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Washington, D. C.

"Pulling Together For Jimmie" shows how child welfare workers, public health workers, crippled children's agency staff, foster parents, and a volunteer together make life more promising for one child.

MUSCULAR DYSTROPHY ASSOCIATIONS OF AMERICA, INC.
New York, New York

A three-panel colored slide exhibit showing manifestations and inheritance factors of muscular dystrophy, early postural changes and characteristics of advanced stages of the disease, and programs in research including research on animals. A recorded interview with the Scientific Director, Dr. Manson, and a montage of the Institute for Muscle Diseases are included.

NATIONAL FOUNDATION FOR INFANTILE PARALYSIS
New York, New York

"Concept of Rehabilitation." The exhibit presents the elements, objectives, and technics required to assist the individual with a disability to attain realistic goals as a useful citizen. Attention is directed toward the "team" approach in all phases of patient care and the utilization of community facilities, agencies, and organizations which provide health, education, vocational counseling, and welfare services.

NATIONAL MULTIPLE SCLEROSIS SOCIETY
Michigan Chapter, Detroit

"Multiple Sclerosis Information Clinic." Automatic colored slide projector showing physical therapy technics being applied in the treatment of multiple sclerosis. Electric information poster with questions and answers concerning multiple sclerosis and its care, treatment, and research. Educational and professionally oriented materials will be given away.

OFFICE OF VOCATIONAL REHABILITATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Washington, D. C.

"New Hope for the Disabled." A delineation of goals and new opportunities for expansion of the program of vocational rehabilitation of disabled civilians implicit in the 1954 Amendments to the Vocational Rehabilitation Act.

UNITED CEREBRAL PALSY ASSOCIATIONS, INC.
New York, New York

"Integration of Services for the Cerebral Palsied" presents the eleven vital steps of a complete program of care for the cerebral palsied, a program contingent upon the cooperation of the various disciplines of therapy, the physician, and the community health officials as well, for its effectiveness.

UNITED STATES AIR FORCE MEDICAL SERVICE
Parks Air Force Base, California

"Treatment Procedures for Post-Surgical Tuberculosis Patients" photographically depicts the physical therapy and occupational therapy programs developed at Parks Air Force Base for the rehabilitation of patients following chest surgery.

UNITED STATES PUBLIC HEALTH SERVICE, DIVISION OF PERSONNEL
Washington, D. C.

"Service With Distinction" presents: 1) how the U. S. Public Health Service works in partnership with federal, state, and local agencies to improve the nation's health; 2) opportunities for profesional advancement; 3) the role of the Service in national emergencies. It illustrates the growth of the Service's responsibilities and the locations of its major facilities in this country and overseas.

Driving to Detroit?

(continued from page 398)

Towns	Restaurants
	41 and State 28, then ¼ mile southwest on county 492.
Marshall	Schuler's—115 S. Eagle St., 1 block south of U. S. 12, 1 block east of U. S. 27
Muskegon	Lakos Restaurant—428 W. Western Ave.
Pentwater	Memory House—Port St., 3 blocks east of U. S. 31
Port Austin	Cartwheel Inn—3 miles west on State 25
Port Huron	Richert's Inc.—2201 Railroad St.
Saginaw	Amerwood Restaurant—709 Lapeer St.
St. Claire	Cunningham Fishermans Wharf—2½ miles north on State 29
St. Ignace	Twin Acres Tea Room—3 miles west on U. S. 2
	The Salt Box House—3½ miles north on U. S. 27
Sault Ste. Marie	Pentti Lund's Steak House—472 Queen St. E.
South Haven	Holly Restaurant—214 Center St.
Sterling	Iva's Chicken Dinners—just off State 76
Sturgis	Em N' Al's Supper Club—west edge on U. S. 112
Traverse City	Bellow's Log Cabin Dining Room—6 miles west on County 633 near Long Lake
	Char-Co-Chic Inn—4½ miles north east on U. S. 31

Proceedings of the Second Congress

The publication, *Proceedings of the Second Congress* of the World Confederation for Physical Therapy, has been released by the American Physical Therapy Association. Pre-publication orders in the number of 1,200 have been filled. Members who failed to order a copy at the time of the Congress may order now. Single copies are $3.00 and there is a special price of $2.50 each for orders of 10 or more copies; mailing to foreign countries requires additional postage of $.25. Chapters and districts may wish to take advantage of this offer. The *Proceedings* portray some of the activities of the Association and a copy presented to interested persons will aid in the interpretation of the profession.

The *Proceedings* has 224 pages with 50 illustrations related to the scientific sessions and 18 illustrations of other Congress events. The size of the pages is the same as the *Physical Therapy Review* and the book has an attractive blue and white cover design which includes the W.C.P.T. emblem and the flags of the member countries.

Order your copy today from the American Physical Therapy Association, 1790 Broadway, New York 19, New York.

Professional Visits

The Michigan Chapter has arranged a schedule of professional visits to observe activities in general hospitals, rehabilitation centers, special hospitals and clinics, vocational training and testing centers, and brace shops. More complete information will be available after you arrive in Detroit. The following centers of interest to members will welcome visitors:

General Hospitals

Mt. Sinai Hospital
Detroit Memorial
Henry Ford Hospital
Harper Hospital
Grace Hospital
William Beaumont Hospital
Providence Hospital
U. S. Public Health Hospital
Wayne County General Hospital
Veterans Hospital

Special Hospitals and Clinics

Childrens Hospital
Muscular Dystrophy Clinic
Multiple Sclerosis Clinic
Detroit Cerebral Palsy Center
Sister Kenny Polio Hospital
National Society for Crippled Children

Rehabilitation Centers

Rehabilitation Institute of Metropolitan Detroit
McGregar Center
Jewish Home for Aged
Detroit Institute of Physical Medicine and Rehabilitation
Great Lakes Steel Corp.

Vocational Testing and Training

Detroit League for Handicapped
Jewish Vocational Training Center
Goodwill Industries

Brace Shops

Wright and Filippis
Rowleys
Bocks
Coons
Brenner and Keffer
Ritter
Becker
Michigan Artificial Limb
Martin and Halsted
Veterans Limb

Answers to Professional Test

1. c. American Women's Therapeutic Association
2. a. Mary McMillan
3. b. 7,832 (April 1, 1957)
4. b. 34th
5. c. Second Congress—New York
6. c. 20 years
7. b. Associate membership
8. c. persons who have made an outstanding contribution to the physical therapy profession
9. c. the APTA Bylaws
10. b. the membership through instruction of Delegates to the House of Delegates
11. b. work under the supervision of an APTA member for one year, attend chapter meetings and successfully pass the APTA examination
12. b. National Office
13. c. August 1
14. b. 9 members
15. c. House of Delgates (Bylaw VI, Section 1)

Student Column

Do You Know . . .

First Annual Conference

The first convention of the American Physiotherapy Association was held September 13-16, 1922, at the Boston School of Physical Education. Sixty-three members from 14 states were registered. This represented about 25 per cent of the membership.

The officers of the Association had been elected by a mail ballot during the previous year, but it had been impossible to carry out plans for a meeting. It should be recalled that Mary McMillan, together with colleagues at Walter Reed in 1919 first envisioned the organization of a National Association. A new profession they felt had been born in the U. S. during the War. The need for an Association for collective efforts to develop and maintain it was recognized. In 1921, after much correspondence with former "aides" throughout the country, who enthusiastically encouraged the committee, and the now historic meeting at Keen's Chop House, New York, the American Women's Therapeutic Association became a reality. Its first significant project was the *Review* with the first issue appearing March, 1921, containing the Constitution and other pertinent facts.

In the June, 1921 issue, Miss McMillan in the lead article pointed out some of the ideals of the Association as she saw them. Since there were eight local organizations (Los Angeles, San Francisco, Portland, Chicago, Washington, Baltimore, New Haven and Boston) as well as members at large in smaller communities it was the duty of the National Association, she stated, to see that stronger groups assist the weaker and the isolated members have the same advantages as those who were living in the large cities. Another duty was for the Association to keep in touch with schools and colleges giving courses or postgraduate courses in physical therapy and to encourage members in further study. One of the most important tasks she emphasized was to "set a standard for Physiotherapy and never in act, word or deed lower that standard. Every year new problems will arise that will need the help and support of each individual member." She concluded with saying, "Now that we are truly a National Association it is up to you and me to see to it that our foundation is laid on sound principles that will endure." With these ideals in mind the 63 members discussed at the business meetings, over breakfast, luncheon, and dinner, and far into the night, qualifications for membership; should men be allowed to join; should those with nursing training be eligible; how to procure articles for the *Review*; the need for definite objectives for the National Association to work on through the local chapters. Finances were a problem, there was but $295.46 on hand. Would there be enough to pay the printer of the *Review*? The answer was "yes" if everyone paid their dues promptly and new members enrolled. Since all the members had had military service the question of military status was a burning one—"They were with but not of the AEF." It had been ruled that they were civilian employees of the army and were not eligible for certain benefits. It was agreed that all efforts should be made to correct the situation.

It was reported that a protest had been sent to the Civil Service Commission in Washington against the contemplated examination for "Reconstruction Assistant." Educational standards then as now were discussed. It was learned that the Army and Veterans Bureau were accepting high school graduates for training. How long should a course be? What should be the prerequisites? Should they be defined in the Constitution? A plan for physiotherapists to standardize Body Mechanics was proposed and to "act as a link of information with the American Medical Association and American Physical Education Association." There was also considerable discussion of, Can recognition of physiotherapy by the medical profession throughout the country be furthered.

The Boston Association entertained the members at a dinner at the Hotel Bellevue. The occasion being also the regular monthly meeting of the local Association which however waived its business so that the National Association could further discuss amendments to the bylaws. It was not all business however. A report lists, "Vocal Selections by Miss Mamie Dawson; A paper on Physiotherapy in Tuberculosis Hospitals by Mrs. Ruth Wheeler; Instrumental Selections by Miss Susie Pierce; Brief Discourse on X ray by Miss M. Bullock; and finally a few "nonsensities" by Miss Minerva Crowell. The meeting adjourned at 11.00 p.m., "with three rousing and appreciative cheers for the Boston Chapter." Thus the first convention passed into

history. All those attending agreed that the Boston School of Physical Education was an ideal place and deep appreciation was expressed to Miss Bouvé and Miss Sanderson for their kindness. It was an unusually pleasant convention, a report states, with physical therapists living up to their reputation of being good sports. "The leadership of Miss McMillan, the hospitality of the Boston Chapter, and the esprit de corps of the members combined to make the convention a helpful and delightful affair—Here's to the Next One."

CONVENTION OF
AMERICAN PHYSIOTHERAPY ASSOCIATION

Boston, Massachusetts, September 13-16, 1922

Welcome Address

Mary McMillan

It is pardonable for us on this, our first birthday gathering, to look backward and to view our progress in the wheel of time during the last few years. In 1918 and 1919 a sudden avalanche of P. T.'s descended upon the country. A regiment of blue clad women, and from whence? Their education and their walks in life may have differed before the Emergency Corps of the Reconstruction Division of the U. S. Medical Corps was founded, but from the time they were "sworn in" to service in the Reconstruction Division they were of one purpose bent. The re-education of the disabled soldier and the early restoration of function to those who had given their bodies, many of whom were restored, or partially restored, was owing, in many instances, to the excellent service rendered by the Reconstruction Aides.

We had among the thousand or so P. T.'s who were in service a nucleus of splendid material. The first year or so after the signing of the Armistice lowered our forces. Aides were being discharged, owing to the closing of many Emergency Hospitals and Army Posts. This thought of the scattering of groups who had been congenial and had pulled together so well made the thought of a permanent severance a thing that must be avoided. It was because of this feeling that about two years ago, the first circular asking a few P. T.'s who were interested in holding together, to rally. It was not until March, 1921, that we actually came into existence as a National Organization. With the return of the election of Officers and Executive Committee we took our first step. The publication of the "*P. T. Review*" in March, 1921, was our first attempt to stand on our own feet.

It may have been a steep climb since then, but you remember the saying, "The easy path in the lowland has nothing of grand or new; but a toilsome ascent leads on to glorious view." That is what we as Physiotherapists need—the view—the vision. With that ahead, we shall not only be able to "Carry on," but to go over the top. We have a splendid new profession to which we shall not only belong but which we have the privilege of creating and helping in its standardization. It is only with united effort that we can hope to achieve anything; therefore, this gathering, which represents our profession from so many different centers, is truly a memorable one.

It is my duty, my privilege, and my pleasure, to extend the hand of welcome to all those who have come from afar. I see before me members and friends from so many different parts of the country! To these and to others we extend a hearty welcome. We want you to feel at home. We shall endeavor to be as informal and homelike in our meetings as possible, in order that we shall be able to get close to one another in understanding. Opinions undoubtedly will differ. Life would be unbearably tame if we always agreed at all times. If each person will give of her personality, relating her experiences, giving her opinion, telling of her needs and difficulties in her professional life, I feel sure that we shall all feel how worth while this get-together has been. There is no need of introductions. Many of us have met in various places; some in France, some in North, some in South, some in East and some in West. It makes no difference where. We are now united to be of service in establishing our profession, to be instrumental in formulating a standard, and then to assist in maintaining such a standard.

News From the Schools

University of Oklahoma students sat in on several sessions of the Institute on Correlation of Physics with Electrotherapy which was held recently at their University for physical therapy instructors.

The Hermann Hospital class was recently introduced to the "Future of Physical Therapists as Athletic Trainers." Eddie Wojecki, athletic trainer at the Rice Institute, spoke at a meeting of the APTA and stressed the fact that physical therapists must recognize athletic injuries as being well within the scope of physical therapy, and unless the profession recognizes this, there is the danger of unqualified persons taking over this important area of treatment.

Meetings, visits, and guest lecturers are an integral part of the curriclum at the University of Kansas. Special topics the physical therapy group has heard discussed include: "The Role of Physical Therapy in the Veterans' Administration," and "The Bobath Method of Cerebral Palsy Treatment" (at a regular Kansas APTA Chapter meeting). The students also attended a full day "Symposium on Pain" at the K. U. Medical School and have toured a public school for handicapped children. These field trips and special lectures not only help correlate theory with practice but aid the Kansas student in understanding the work ahead.

Statistics Help Texans Prove Their Tall Tales

Physical therapy students at the University of Texas seem to become rapidly oriented to the intricacies and vagaries of medical statistics. Early inclusion of this course in their curriculum has enabled them to speak glibly on many controversial subjects. A typical question for after-class discussion might be: "What do you personally feel is the value of using the one-tailed test instead of the two-tailed test in determining a more accurate basis for the rejection or acceptance of null hypothesis?" Most students assured this reporter that they had never before realized the practical everyday importance of a formula such as:

$$Y = \frac{N \cdot ci}{o} \left[\frac{e^{\cdot -\frac{1}{2}\left(\frac{x}{o}\right)^2}}{\sqrt{2\pi}} \right]$$

to efficiently solve the current problems which face the student in America today.

Dr. J. A. Scott, Head of the Department of Statistics at the University of Texas Medical Branch, has lectured to the physical therapy group on several occasions. Statistics should be used to solve a problem, not to support the findings which one has previously assumed. Dr. Scott says, "Most people use statistics as the drunk uses a lamp-post—that is, as a support and not as a source of illumination."

One of the most profitable pieces of information in the statistics course was a complete mathematical background which explained the probability of tossing the winning combination at the right time in a game of dice! ! !

General News

War Orphans Educational Program

The passage of the War Orphans Educational Assistance Act of 1956 represents the accomplishment of an American Legion Child Welfare objective which will make it possible for every child who lost a parent as the result of war service, to further his education on an equal basis with most other students.

The purpose of the law is to provide opportunities for children whose education might otherwise be impeded or interrupted by reason of the parent's death which was caused by disease or injury incurred or aggravated in the Armed Forces during World War I, World War II, or the Korean Conflict and to aid such children in obtaining educational status which they normally would have obtained had these parents continued to live.

To be eligible for the benefits the parent must have died while in service or if death occurred after being honorably discharged, the cause must have been a disease or injury incurred or aggravated in the Armed Forces during official war periods in World War I, World War II, or the Korean Conflict.

The eligible person may receive assistance during the period which begins his eighteenth birthday or his successful completion of high school, whichever occurs first, and ends on his twenty-third birthday.

The age limits may be extended if (1) persons are over 18 but under 23 on the effective date of this Act, (2) their individual deadlines fall in the middle of a term in which they would be permitted to complete the term or semester, (3) persons enter military service before age 23.

The legislation provides education and training to a maximum of 36 months. For those who attend approved colleges, vocational schools, business schools and other approved educational institutions, the law provides $110.00 per month upon completion of a month's full training, $80.00 per month on a three-fourth time basis, and $50.00 a half-time basis.

The Act also includes special restorative training provisions to train or retrain to restore or improve a person's ability with respect to physical or mental functions in which he is handicapped and which are essential to the normal pursuit of education.

The potential number of recipients as outlined by the Veterans Administration is: World War I — 4,272; World War II — 132,542; Korean Conflict — 19,365. When school started last fall, about 14,000 were in the college age group. However, less than half of these students benefited because of a failure to finish high school and to plan to further education.

The American Legion believes a real service can be provided by all persons who inform a potentially eligible student of the benefits of this educational assistance.

The parent or guardian of the person for whom educational assistance is requested should submit an application to the Veterans Administration and receive an official decision on eligibility from that agency.

Cerebral Vascular Research Program

The launching of the first, nationwide cooperative research attack against cerebral vascular disease has been announced by Surgeon General Leroy E. Burney of the Public Health Service. This disease, commonly known as "stroke," is the Nation's third-ranking killer.

Ten medical research centers in 9 states have already joined in the program, and it is expected that 35 to 40 institutions will ultimately participate. The program, which is expected to run five or six years, is under the auspices of the National Institute of Neurological Diseases and Blindness of the Public Health Service's National Institutes of Health. It has been estimated that as many as 1,800,000 living Americans have suffered cerebral strokes at one time or another. Deaths due to such strokes are estimated at 175,000 annually.

The new cerebral vascular research program was made possible by Institute grants totaling $172,000 to the various participating organizations. The grants were recommended by the National Advisory Neurological Diseases and Blindness Council earlier this month. The cooperative program is supplemented by 29 current individual projects directed to research on various aspects of cerebral vascular disease and supported by Institute grants totaling about $250,000.

The cooperative investigation will make possible the study of thousands of patients who either have suffered a stroke or who show clinical signs indicating that a stroke might be coming on. The program is specifically concerned with patients suffering from cerebral vascular disease involving hemorrhage, blood clots, blood tumors (aneurysms) and malformations of the arteries or veins of the brain.

Research results are expected to shed new light on the nature and causes of strokes and to open the way to more effective treatment methods. Relatively few data are now available on the effectiveness of the various methods currently in use.

Another aim of the cooperative program is to make possible the more accurate selection of stroke patients most likely to benefit from surgical or nonsurgical therapies. Data collected will be collated and evaluated at the University of Iowa, Iowa City, one of the cooperating institutions. Both the Department of Neurology and the University Hospital will participate.

Other medical facilities cooperating in the new research program are those of the University of Minnesota, Minneapolis; the Massachusetts General Hospital, Boston; the University of Michigan, Ann Arbor; Duke University, Durham, North Carolina; University of Pennsylvania, Philadelphia; Columbia University, New York, New York; Indiana University, Bloomington, Indiana; the Buffalo General Hospital, Buffalo, New York; and Washington University, St. Louis, Missouri.

Dues Notice

Annual dues were payable on May 1st. Your prompt response will be appreciated as a service to the Association and to insure your uninterrupted receipt of the *Physical Therapy Review* along with other membership privileges. Those who are not actively practicing physical therapy may apply for inactive membership.

Index to Current Literature

(continued from page 388)

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Physical Therapy Programs

APPROVED BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

Schools offering the four year program leading to a baccalaureate degree accept high school graduates and transfer students. Schools offering the 12 to 16 months' program leading to a certificate accept students who have completed all or most of their undergraduate work providing they meet certain course requirements. Recipients of a degree and/or certificate have equal professional status. For specific information regarding each school's entrance requirements, tuition, and other fees, write to the physical therapy director indicated below. All students should investigate course requirements *early*.

	Degree	*Certificate*
CALIFORNIA		
Mary J. Dodge School of Physical Therapy Childrens Hospital Society 4614 Sunset Boulevard Los Angeles 27	‡	†
Ronald A. Hershey School of Physical Therapy College of Medical Evangelists Loma Linda	†	†
Lucille Daniels Division of Physical Therapy Stanford University Stanford (Palo Alto)	†	†
Margery L. Wagner Curriculum in Physical Therapy University of California The Medical Center San Francisco 22	†	†
Charlotte W. Anderson Department of Physical Therapy University of Southern California University Park Los Angeles 7	†	†
COLORADO		
Dorothy Hoag Curriculum in Physical Therapy University of Colorado Medical School Denver 20	†	†
CONNECTICUT		
Frances Tappan School of Physical Therapy U 101 University of Connecticut Storrs	†	
ILLINOIS		
Elizabeth C. Wood Course in Physical Therapy Northwestern University Medical School 303 East Chicago Avenue Chicago 11	†	†
IOWA		
Olive C. Farr Physical Therapy State University of Iowa Hospitals Iowa City		†
KANSAS		
Ruth G. Monteith Section of Physical Therapy University of Kansas Medical Center Kansas City 12	†	†
LOUISIANA		
Isadore Brown, Acting School of Physical Therapy Charity Hospital of Louisiana New Orleans 12		†
MASSACHUSETTS		
Adelaide L. McGarrett Physical Therapy Department Boston University Sargent College 6 Everett Street Cambridge 38	†	†
Constance K. Greene Department of Physical Therapy *Bouve-Boston School, Tufts University Medford 55	†	
Shirley M. Cogland *Program in Physical Therapy Simmons College-Children's Hospital 300 Longwood Avenue Boston 15	†	†
MICHIGAN		
Virginia Wilson Curriculum in Physical Therapy University of Michigan University Hospital Ann Arbor	†	†
MINNESOTA		
Darrell D. Hunt School of Physical Therapy Mayo Clinic Rochester		†
Ruby M. Overmann Course in Physical Therapy University of Minnesota 860 Mayo Memorial Hospital Minneapolis 14	†	

* Accepts women students only.

‡ Baccalaureate degree available from an affiliating college or university.

	Degree	Certificate
MISSOURI		
Sr. M. Imelda, S.S.M. Department of Physical Therapy St. Louis University 1325 South Grand Boulevard St. Louis 4	†	
Beatrice F. Schulz Department of Physical Therapy Washington University School of Medicine 660 So. Kingshighway St. Louis 10	†	
NEW YORK		
Dorothy L. McLaughlin *Division of Physical Therapy The Albany Medical College Albany 8	†	†
Mary E. Callahan Courses for Physical Therapists Columbia University College of Physicians & Surgeons 630 West 168th Street New York 32	†	†
Elizabeth C. Addoms Physical Therapy Curriculum School of Education, New York University Washington Square East New York 3	†	†
Mildred F. Heap Program in Physical Therapy University of Buffalo 2183 Main Street Buffalo 14	†	†
NORTH CAROLINA		
Helen Kaiser Division of Physical Therapy Box 3403, Duke Hospital Durham		†
OHIO		
Robert D. Kruse Course in Physical Therapy Frank E. Bunts Educational Institute 2020 East 93rd Street Cleveland 6		†
Gladys G. Woods School of Physical Therapy Ohio State University University Hospital Columbus	†	†
OKLAHOMA		
Thelma Pedersen School of Physical Therapy University of Oklahoma, Medical Center Oklahoma City 4	†	†
PENNSYLVANIA		
Dorothy E. Baethke Division of Physical Therapy University of Pennsylvania 205 S. 34th Street Philadelphia 4	†	†
Kathryn Kelley Curriculum in Physical Therapy D. T. Watson School of Physiatrics Leetsdale	‡	†
PUERTO RICO		
(All classes given in Spanish) Lutgarda V. Piñeiro School of Physical & Occupational Therapy Professional Bldg., 8th Floor Stop 22, Santurce	†	†
TEXAS		
Doris E. Porter Grady Vaughn School of Physical Therapy Baylor University Hospital Dallas 1	†	†
Cecelia J. Lee School of Physical Therapy Hermann Hospital Houston 25	‡	†
Ruby Decker School of Physical Therapy The University of Texas Medical Branch Galveston	†	†
VIRGINIA		
Susanne Hirt School of Physical Therapy Medical College of Virginia Richmond 19	†	
WISCONSIN		
Beth J. Phillips Curriculum in Physical Therapy Marquette University School of Medicine 561 North 15th Street Milwaukee 3	†	
Margaret Kohli Course in Physical Therapy University of Wisconsin Madison 6	†	†
U. S. ARMY MEDICAL SERVICE		
*Physical Therapy Course Army Medical Service School Brooke Army Medical Center Fort Sam Houston, Texas Write to: The Surgeon General Department of the Army Washington 25, D. C. Att.: Personnel Division		†

* Accepts women students only.

‡ Baccalaureate degree available from an affiliating college or university.

Please direct all inquiries regarding tuition, entrance requirements and other specific information to the school and *not* to the American Physical Therapy Association.

Abstracts

Cerebral Dominance in Sinistrals

G. Ettlinger, C. V. Jackson and O. L. Zangwill (Psychological Laboratory, The National Hospital, Queen Square, London), BRAIN, Lond., 79: 569-588, December 1956

It has become abundantly clear in recent years that the relationship between handedness and cerebral dominance is far less clear-cut than was formerly supposed. Although the classical rule relating right-handedness and left hemisphere dominance has not been seriously challenged, right cerebral dominance can no longer be accepted as the rule in left-handed persons. Nor is aphasia resulting from a left-sided lesion in a left-handed patient in any way exceptional.

The conventional criteria of hemisphere dominance (other than handedness) are (1) severe and relatively persistent dysphasia; (2) dysgraphia; (3) bilateral dyspraxia; and (4) the presence of specific parietal signs, in particular the Gerstmann syndrome.

It has been suggested by several authors that speech in sinistrals is represented bilaterally, but as yet there is no certain evidence to support this hypothesis. The frequency of aphasia in sinistrals with left-sided cerebral lesions has led some to question the very existence of right hemisphere dominance even in left-handed persons. However, there is adequate evidence to support the existence of right hemisphere language laterality—in some sinistrals, at least. Right hemisphere dominance is very much less common than left-handedness. In the meantime practically no attention has been given to the criteria of dominance other than speech and handedness.

In this paper, the authors present 10 cases in which dysphasia and kindred disturbances were observed in association with unilateral cerebral lesions in left-handed patients. The lesion was left-sided in 8 cases and right-sided in 2. Special attention was paid to (a) the pattern of lateral preferences; (b) familial sinistrality; (c) type and severity of speech disorders; and (d) presence or absence of dyspraxia and the Gerstmann syndrome.

The main findings revealed severe dysphasia syndromes in 5 out of 10 cases; a clear predominance of speech disorders associated with left-sided lesions; and the absence of any case of persistent dysphasia due to a right-sided lesion.

Other findings included disorders of praxis and body-scheme in 3 patients with involvement of the left parietal lobe; indications of consistent left hemisphere dominance for all major functions in 5 cases and probable left hemisphere dominance in 2. Right hemisphere dominance was indicated, if less certainly, in 2 cases. In one case, there was evidence of left hemisphere dominance for praxis and right hemisphere dominance for language processes.

Insofar as the hypothesis of bilateral speech representation in left-handed persons is concerned, the authors concluded that whereas some degree of "cerebral ambilaterality" may exist in a certain proportion of cases, unilateral representation of speech (usually left but occasionally right) is the most prevalent form of cerebral organization in sinistrals.

Treatment of Ankle Injuries

Edwin French Cave, M.D. (Massachusetts General Hospital, Boston, Mass.), G P, 15: 85-93, March 1957

A brief review of the anatomy of the ankle is presented. The ligamentous injuries, epiphyseal injuries, and fractures commonly occurring in the ankle joint are presented in detail. The author believes that the ankle is the most frequently injured joint in the body because of its role in supporting the weight of the body. Unless an ankle sprain is properly supported an adequate length of time, ligaments may fail to heal, and recurrent sprains can be expected. Mistreatment of ankle fractures may result in disalinement of the joint, widening of the mortice, trauma to articular surfaces, and ligamentous relaxation. These defects may lead to permanent symptoms of pain, swelling, and deformity.

Ligamentous injuries are divided into injuries to the external collateral ligament, internal collateral (deltoid) ligament, tibiofibular ligament, and achilles tendon. Symptoms of each and treatment procedures are included. The technic used in the adhesive strapping of external collateral and internal collateral ligament injuries is described with illustrations. This strapping is usually renewed at weekly intervals for a period of four to six weeks. Injury to the tibiofibular ligament is usually due to severe trauma, and depending on the severity, may require operative procedure; or plaster support for a period of about six weeks may be sufficient. Surgical repair of the achilles tendon followed by mobilization in a plaster cast for a period of six weeks is recommended.

Epiphyseal separation of the lower tibia and fibula are described, and the importance of these injuries is emphasized due to the growth disturbance and deformity which may result. The common fractures involving the ankle joint are listed as follows:

1. Fractures of lower end of fibula
2. Fractures of the internal malleolus
3. Fractures of the internal and external malleoli
4. Trimalleolar fracture with or without dislocation of astragalus
5. Bursting fractures of the lower end of tibia
6. Fractures of the tarsus associated with dislocation

The symptoms, methods of diagnosis, treatment procedures for each of these fractures are outlined, and roentgenograms are included to illustrate the fracture sites.

Replacement of Biceps Brachii by Pectoralis Minor Transplant

E. Spira (Tel-Hashomer Hospital, Tel-Aviv), J. BONE SURG., AM. VOL.: 126-127, February 1957

A 29 year old man had been stricken with poliomyelitis 9 years before this operation was performed. There was residual paralysis of the lower extremities and partial paralysis of the upper extremities. On the right side there was total paralysis of the pectoralis major, biceps brachii, and deltoid muscles. The triceps was weak and could not extend the elbow against resistance. All other muscles of this extremity were functioning well; in particular, the pectoralis minor, lying beneath the paralyzed and wasted pectoralis major. The left upper extremity was unaffected except for weakness of the deltoid muscle, which functioned against gravity but not against added resistance. The patient was confined to a wheel chair and because of the paralysis in the right upper extremity was unable to wheel himself—lift himself in and out of the chair, or use the right arm except as a help and stabilizer.

The Steindler muscle shift operation was considered unsuitable because of the risk of weakening the forearm muscles and of the development of a flexion contracture of the elbow. It seemed that the strongly acting pectoralis minor was the only muscle suitable for transplantation. The operation consisted of dissecting free the origin of the pectoralis minor, suturing a fascial strip from the left thigh to the detached origin of pectoralis minor, and then suturing the now elongated pectoralis minor to the tendon of biceps brachii. After operation the limb was supported in a simple collar-and-cuff sling for three weeks, and thereafter active extension of the elbow was encouraged. Six months after the operation there was almost full range of extension of the elbow with strong flexion through a range of 135 degrees. The formerly weak triceps also gained much in strength so that the patient could raise up his body on the extended right arm. The patient, in addition, learned to use the transplanted pectoralis minor as an abductor, thus partly compensating for the paralyzed deltoid. Follow-up examinations have shown progressive improvement in strength in flexion-extension of the elbow and in adduction of the shoulder. The patient is now almost completely independent for his daily needs in the home and at work.

Clinical Evaluation and Repair of Peripheral Nerve Injuries

George Perrett, M.D. (Iowa City, Iowa), J. IOWA M. SOC., 47: 117-126, March 1957

Early recognition of a peripheral nerve injury is the most important step toward assuring proper treatment. Failure to recognize a nerve injury is the most common cause for delay in treatment and poor functional results.

The author states a peripheral nerve lesion should be investigated immediately if the lesion was not diagnosed at the time of injury. All delays in repairing a nerve will be complicated by increased muscle atrophy, fibrosis of muscle, tendons and joint capsules, contractures of tendons and joints, bone atrophy, and skin changes. Delay causes more retraction of the two nerve ends, bigger neuromas and fibromas, denser surrounding scar tissue, and more difficulty in identifying the nerve. In addition, the older the injury the bigger the gap that must be overcome in approximating nerve ends and the more extensive the neurolysis that is necessary in mobilizing the nerve and narrowing the gap.

The author states also that following a nerve injury the first consideration should be to keep the effector mechanism in a state of function. For every patient with a peripheral nerve injury, the importance of physical therapy procedures to include electrical stimulation, whirlpool, massage, active and passive exercises, and proper splinting is strongly emphasized in the preoperative and especially in the postoperative period. The continuance of physical therapy is urged until there is evidence of sensory recovery and of contraction of paralyzed muscle.

Some simple tests for recognition of peripheral nerve lesions are listed and the method used for the nerve repair of the open wound and the closed injury is outlined.

A 5 year summary of cases reveals that the author has seen 51 patients with peripheral nerve injuries. Twenty-six had suffered closed nerve injuries, 23 had open injuries, and 2 had nerve tumors. Eighteen nerve sutures were done, 16 of which had been unnecessarily delayed for months and years. Twenty-three patients required only neurolysis and nerve transposition, and 8 patients required no surgical treatment.

Four case histories are presented in an attempt to show some of the difficulties the surgeon encounters in evaluating and repairing neglected injuries of peripheral nerves.

The Effects of Limb Position on the Vasodilator Response to Cold in the Fingers

John A. Dickson (Queen's University, Belfast), J. PHYSIOL., Lond., 135: 93-97, Jan. 23, 1957

Greenfield and Shepherd (1950) noted that a finger dipped in water 0° to 6°C. caused vasoconstriction for about 6 minutes, then vasodilatation. This vasodilatation was followed by intermittent periods of vasoconstriction. This was seen with the arm in the dependent position. Dickson wished to see how the response would be affected if the arm were elevated, thus producing a reduction of the perfusion pressure.

Nine subjects ranging from 18 to 36 years of age were used in the experiment. They wore their normal clothing and the room temperature varied from 17° to 22°C. There was only a 1.5° variance during any one experiment. A tower apparatus with a calorimeter attached was used to support the arm. Heat eliminations were taken at 6 positions, 58.5 cm below, and 4.0, 11.0, 25.0, 38.5, and 55.0 cm above the sternal notch. A comparable finger on the opposite arm was used as a control. Three experiments were performed on each subject.

The results showed that as the arm was elevated, the heat eliminations progressively diminished. It was concluded that the decrease in heat eliminations could be attributed to the progressive reduction of perfusion pressure.

Pulmonary Ventilation in Physical Medicine

Harold T. Davenport (McGill University, Montreal), CANAD. M. ASS. J., 76: 205-207, Feb. 1, 1957

It is felt by some that certain physical therapy procedures used in treating various respiratory diseases may not have been critically examined as to objective. This paper presents some controversial ideas with the hope of provoking more assessment of the present methods.

Electromyography has shown that in a normal person the muscles of respiration undergo rapid changes to bring about relaxation at the end of inspiration; therefore, it is unlikely that this rapid relaxation can be actively improved upon by treatment. In regard to "localized" breathing, selective movement of a part of the chest wall may not necessarily be accompanied by better ventilation of the underlying lung. Conversely, it is difficult to visualize the development of the ability to underventilate voluntarily or "rest" an area of the lung.

It has long been maintained that it is improbable that the majority of human beings can have cortical voluntary control over any organ of which they have no conscious knowledge—this applies to the diaphragm. We can vary the extent of the movement of the diaphragm, and it is possible for the emphysematous patient to develop the expiratory phase of ventilation; however, during exercise, patients cannot perform their breathing exercises, and invariably revert to their usual type of breathing. It is unlikely that the mode of breathing can ever be

permanently changed or that exercises can be more than unnatural conscious acts.

Attention should be paid to posture since vertical movement of the chest cage can be increased by flexion and extension of the spine; also short, rapid, expiratory efforts seem to help patients overcome dyspnea. On the other hand, tight binding of the lower ribs does not appear to change appreciably the ventilation of emphysematous patients.

The physical therapist has most success in conditions in which respiratory dysfunction is aggravated by the presence of pulmonary secretions, where postural clapping and vibration percussion, particularly when combined with bronchodilation, produce the best results. It is the opinion of the author that routine class breathing exercises do little to aid the process of expectoration. Also, it would seem wiser to concentrate more on treatments such as intermittent positive breathing, the use of oxygen and helium, air conditioning, sputum liquefaction, exsufflators, and analgesics, than to expend so much time teaching ventilation "exercises" of dubious value. The author believes there is insufficient objective evidence of the benefits of physical treatment for pulmonary diseases, and therefore, the newer investigative technics used in ventilation studies should be applied more often in this field of medicine.

Gelastic Epilepsy

David D. Daly and Donald W. Mulder (Mayo Clinic and Mayo Foundation, Rochester, Minn.), NEUROLOGY, 7: 189-192, March 1957

"Gelastic epilepsy" is a term coined by the authors to describe an epileptic seizure characterized by laughter. Two cases are reported, one of an 11 year old boy who had been subject to seizures for 3 months. The attacks clinically were under way for a few seconds before laughter began. In the second patient, a 36 year old man who had been subject to seizures for 2 years, the first clinical manifestation of each seizure was a smile which changed to laughter.

Implications of observations relative to the seizures of these two patients are discussed. The authors pose the question as to the possibility of a specific cortical region which may constitute the anatomic substrate of emotion and whether or not the "limbic system" might be involved. It is also pointed out that, although most authors have emphasized that the emotions occurring as warnings of minor attacks are unpleasant, this is not invariably the case and the occurrence of laughter in the two patients cited, further confirms and extends this view.

An additional question arises: Is the laughter of these patients ictal, or is it possibly no more than a postictal automatism? Although no direct answer can be supplied, it is concluded that laughter may be a manifestation of epileptic discharge in the temporal region. Laughter is simply a facet of affective behavior. This would suggest that a wide gamut of emotional phenomena, both pleasant and unpleasant, maybe manifestations of epileptic discharge within the temporal region.

Electrical Signs in the Diagnosis of Carpal Tunnel and Related Syndromes

J. A. Simpson (Neurological Research Unit, National Hospital, Queens Square, London), J. NEUR., Lond., 19: 275-280, November 1956

A common problem in clinical neurology is the differential diagnosis of the cause of tingling or numbness of the fingers which may be associated with weakness of the small muscles of the hand. There is general recognition that the syndrome may occur from compression of nerve roots or peripheral nerves supplying the hand, or of blood vessels supplying the affected nerves, and that compression may occur at various sites in the spine. The median nerve is commonly compressed in the carpal tunnel on the flexor aspect of the wrist. The diagnosis is of importance in view of the efficacy of decompression of the carpal tunnel.

Considering that the pathological basis of these syndromes is presumed to be a local ischemic lesion of a peripheral nerve, it seemed worth examining patients for phenomena known to be present in experimental ischemia of short lengths of nerves. These are diminished conduction velocity through the ischemic segment and repetitive firing of motor nerve fibers after a single electrical shock stimulus.

Ten normal subjects, 5 patients with motor neuron disease, and 10 patients with various muscular diseases were examined as controls. Fifteen cases of carpal tunnel syndrome were used as the experimental group. Electromyographic recordings were made with needle electrodes on the abductor pollicis brevis or opponens pollicis for the median nerve and the abductor digiti quinti for the ulnar nerve.

In 11 of the 15 carpal tunnel patients, slowed conduction was demonstrated in the presumed ischemic section of the median nerve. In 3 cases a return towards normal occurred after decompression. Repetitive firing was present in 7 of the 15 cases. The condition was improved after decompression. One patient with traumatic neuritis of the ulnar nerve at the elbow showed slowed conduction limited to the damaged segment.

Operative Results in Lumbar "Disk" Syndrome

Gale C. Clark (U. S. Naval Hospital, Oakland, California), U. S. ARMED FORCES M. J., 8: 195-197, February 1957

The effectiveness of modern operative therapy of herniated nucleus pulposus was revealed by review of the cases of 100 unselected, consecutive patients who were operated on at the U. S. Naval Hospital during 1952 to 1955. All of these patients were military personnel on active duty.

In all cases conservative management was tried for a period of two to six weeks. This consisted of bed rest on a firm mattress and analgesics as necessary. If the patient showed improvement on this regimen, he was sent to the physical therapy section for exercises to regain maximum power in his back and gluteal muscles. Myelography was performed if there were signs of a single radicular manifestation or if incapacity for work persisted in spite of conservative therapy.

The operative procedure was the popular technic of interlaminar exploration, in most cases without removal of bone. Occasionally, edges of the laminae above and below the lesion were rongeured away for more adequate exposure. A hemilaminectomy was performed in one case only. All surgery was performed under general anesthesia.

Postoperative management was considered to be one of the most important elements in the patient's treatment. After surgery in the morning, most patients were allowed to get out of bed on the night of the same day and to attempt to void

while standing by the side of the bed. Every patient was out of bed once on the first postoperative day. Walking was allowed for very short periods. Sutures were removed on the seventh postoperative day, and the patient was transferred to the convalescent ward where he was allowed to take frequent but very short walks. The patient was instructed in exercises designed to achieve maximum power in the lumbar and gluteal muscles.

Two weeks postoperatively, the patient was given 30 days convalescent leave with strict orders to continue his exercises at home for five minutes of every waking hour. All patients reported by mail after two weeks as to their progress. On return from leave, physical therapy was intensified for a period of ten days after which the patient was reevaluated.

As a result of this plan of treatment, 75 per cent returned to full active duty in from two to eight months. Those requiring the more extended period were assigned meanwhile to limited duty. Eight patients of the 25 per cent discharged from military service were sent to the Physical Evaluation Board at their own request because they desired evaluation at the end of enlistment, prior to discharge from military service. It is believed that some of these men could have returned to full duty if expiration of enlistment had not intervened. Patients who were discharged from military service because of disability were estimated to have an average of 30 per cent disability at the time of discharge.

The follow-up period for the patients returned to active duty ranged from 6 to 28 months. A longer period would be of interest in evaluating long term results and probably would disclose a few men who were unable to remain on full duty status. However, there is definite need to dispel the common and unjustified pessimism as to the results of this complaint.

The Development of a Physical Medicine and Rehabilitation Service in a County Hospital

Eugine Moskowitz (Mount Vernon, New York), N. YORK STATE J. M., 57:919-923, March 1, 1957

In establishing physical medicine and rehabilitation services as a medical specialty, an initial survey of the needs of the hospital in view of its size, patient population, and services needed is essential.

The author describes in this paper the development of a Physical Medicine and Rehabilitation Service in Grasslands Hospital, Valhalla, New York. This hospital is maintained by the Department of Public Welfare of Westchester County and charged with the care of acutely and chronically ill children and adult patients including those who reside in a large county home. The physical plant includes several units, the largest of which is located in the main building with smaller areas in outlying buildings and in the county home.

The Service, which has been in operation for six years, renders diagnostic and therapeutic services under the supervision of the director of the department who is also responsible for the administration of the Service and its personnel. Since 1953, a six-month residency has been offered and an inpatient service with 12 beds for adults has been provided.

An effective teaching and orientation program has been established to secure the cooperation and understanding of the medical board and the attending staff of the hospital. General staff meetings held monthly, formal lectures, panel discussions, case reports, ward rounds, and bedside teaching have been utilized to emphasize the need for the integrated participation of all members of the medical team in the treatment of various diseases and injuries.

Patients in the older age group with chronic or degenerative disabilities are in the majority in a large county hospital. A survey was made of 58 such patients who were referred for rehabilitation during 1951. These chronic patients were at a static level or were hospitalized for domiciliary care. Of this group 75 per cent were rehabilitated to the degree of discharge from the hospital and nearly half of them were ambulatory. Follow-up studies reveal progression of their rehabilitation in the home situation which indicates that once the pattern is established, rehabilitation can be continued effectively in the home.

Plans of treatment for the hemiplegic, arthritic, tubercular, and various other medical, orthopedic, neurological, and neurosurgical patients are described. The Physical Medicine and Rehabilitation Service in Grasslands Hospital has evaluated and treated 573 cases of poliomyelitis and has successfully organized a total rehabilitation program for these patients. During the past year a rehabilitation service designed to serve the permanent domiciliary residents of the county home has been added to the program.

The need for the close integration of all services responsible for rehabilitation is stressed.

The Prosthetic Team and the Child Amputee

Robert Mazet and Milo B. Brooks (University of California Medical Center), J. INTERNAT. COLL. SURGEONS, 27: 70-82, January 1957

The importance of the team approach and the role of the team member in the treatment of the child amputee is described. The Child Amputee Prosthetic program at the University of California Medical Center is conducted jointly with the Medical School which is responsible for diagnosis and treatment and the College of Engineering which is instrumental in the development and fabrication of the prosthesis. Within the Medical School, the departments of orthopedics, pediatrics, psychiatry, physiology, physical medicine, and social service participate in the project.

Seven case reports of children with upper and lower extremity involvement are presented, relating the problems in care and fitting and recording the progress of the patient.

The authors state that a child will use an artificial prosthesis only if it provides comfort and function. Decision as to the optimum time for fitting the child and the type of apparatus prescribed are based on several factors: 1) the level and nature of the amputation, 2) age of patient, and 3) attitudes of child and parent toward wearing a prosthesis.

At the end of the first year, a child may be given a jointless pylon. When good balance is attained, an ankle can be added, and at about age 3 the child can probably operate a knee joint. Suction socket wearing in the fourth year is feasible. As to the upper extremity, a child under 1 year can push and pull only, so the infant passive hand is used. At the age of 2½ years, a child will develop enough to operate a small hook. Not until around 4 years of age is a child able to understand a full functioning prosthesis and make use of it.

The necessity of adequate training, whether on an inpatient or outpatient basis, and the importance of regular follow-up visits to maintain the fit and function of the prosthesis are strongly emphasized.

Referred Pain and Sciatica in Diagnosis of Low Back Disability

Geo. S. Hackett (Canton, Ohio), J.A.M.A. 163: 183-185, Jan. 19, 1957

This article deals with 1,178 patients with low back disability treated with 8,000 intraligamentous injections. The author's treatment is based on the concept that most of the pain in these patients results from relaxation of ligaments. Careful mapping of the areas of referred pain and knowledge of dermatomes helps in locating involved ligaments.

The local and referred pain results from undue stimulation of sensory nerves in the ligaments which are subjected to undue stretch by instability of joints. Sciatica is usually associated with relaxing of ligaments at the lower margin of the sacroiliac joint. A protective spasm in the piriformis muscle may occur in conjunction and result in pressure on the sciatic nerve.

Accurate diagnosis depends on history, X rays and physical examination which includes location of trigger point areas and correlation with areas of referred pain. Diagnosis is confirmed by inserting a needle into the involved ligament which reproduces the local and referred pain.

Treatment is by a technic known as prolotherapy—or generating new cells for "rehabilitation of an incompetent structure." A solution is injected to stimulate formation of new fibrous tissue. The same treatment can be used for muscle and tendon attachments to the skeleton. Several injections can easily be given in one treatment, and no further therapy is necessary for one month. If pain persists other ligaments are injected after that period.

Of the 1,178 patients treated with the above method, 82 per cent considered themselves cured.

Ultraviolet Light Factor in Chlorpromazine Dermatitis

Milton Cahn and E. J. Levy (University of Pennsylvania School of Medicine), ARCH. DERMAT. 75: 38-40, January 1957

Abnormal skin reactions to sunlight have been reported occasionally among patients receiving chlorpromazine therapy. Fifteen persons were studied to determine what light factor might cause dermatitis in some patients receiving chlorpromazine. Ten patients were receiving the drug. 5 of these reported dermatitis on exposure to intense summer sunlight. Five had no such histories. Five normal patients were studied as controls.

All 15 were exposed to ultraviolet irradiation from a hot quartz source. There was no significant difference in the dose of ultraviolet necessary to produce a minimal erythema in any of the people tested. None showed abnormal photosensitivity.

Reactions of photosensitivity to chlorpromazine developed only on exposure to intense summer sunlight containing ultraviolet wave lengths between 3025 A and 2968 A. Hot quartz sources lack this wave length. It would seem to confirm then that this narrow band of light rays induced the skin reactions. Chlorpromazine photosensitivity is not an indication for stopping the drug, but patients should avoid undue exposure during the summer.

Ultrasonic Therapy in Rehabilitation: A Supplement to Active Exercise

J. A. Moncur (Fitness Centre, Bridge of Earn Hospital, Perthshire), BRIT. J. PHYS. M., 20: 25-27, February 1957

A group of 51 patients with varying orthopedic conditions were selected for treatment with ultrasonics after improvement with active exercise had ceased. The conditions treated included prolapsed intervertebral disk, laminectomy for prolapse of disk, osteoarthritis of the spine, fracture of the spine and fractures of the tibia.

Sonation was carried out daily for five minutes to each area. No more than two areas were treated during the same session. Ankles, feet, and hands were treated under water with the sound head moving. The intensity used was between two and three watts per square centimeter and the number of treatments varied between 3 and 36. An active exercise program was continued with the ultrasonic treatments.

Relief of pain was the objective of the ultrasonic treatment. No attempt was made to measure objective improvement but some consideration was given to improved performance of active work as a measure of decreased pain. The immediate results of the treatment were that 8 patients became symptomless, 21 improved, and 22 reported no change in their symptoms. A follow-up study done three months later indicated that 4 patients were symptomless, 17 improved, 18 reported no change and 12 did not reply.

The close correlation between the immediate results and the results reported at the end of the follow-up suggest that the results obtained by the combined therapy lasted. It appeared that the beneficial effects of ultrasonic therapy are the result of the powerful analgesic effect exerted allowing for a better performance of active exercise.

Treatment of Fracture-Dislocation of the Shoulder

Alexander Kushner (Mt. Sinai Hospital, Miami, Florida), J. INTERNAT. COLL. SURGEONS, 27: 61-69, January 1957

A review of various methods of dealing with fracture-dislocations is outlined. A revised technic for the closed reduction of fracture-dislocations of the shoulder is described and illustrated by roentgen studies and photographs.

This reduction is accomplished by placing the patient on a fracture table that permits traction on the upper extremity—preferably the Alber-Compere table. The shoulder is gently abducted to 90 degrees and fingers suspended to an overhead crossbar. A Steinman pin is drilled through the olecranon and connected to a traction bar by means of a separate loop of muslin bandage. Efficient countertraction is important to the opposite arm to permit the proper reduction. The opposite shoulder is in full abduction and tied to the traction bar with the elbow extended.

The patient is ambulatory in a spica cast 24 hours after reduction. The upper shell of the arm cast and the Steinman pin are removed in the fifth week and active exercises begun in the sixth week. Intensive physical therapy is given until maximum function is restored. The average duration of treatment is 12 weeks.

The precautions to be taken in this procedure are listed and include: 1) the importance of immediate reduction, 2) necessity for general anesthesia, 3) avoidance of injury to ulnar nerve after insertion of the pin.

The author states that results obtained in treating fracture-dislocations have not been comparable to those of other skeletal injuries; how-

ever, with the increased efficiency of this technic of closed reduction two of the advantages will be to reduce aseptic necrosis of the humeral head by permitting maximum contact with medullary blood supply from the distal fragment and to eliminate the complication of calcification of shoulder capsule and ligaments seen in the open reduction. He has also found this technic useful in the handling of difficult fractures of the surgical neck of the humerus and in reconstructive procedures such as shoulder arthrodesis.

Basic Teaching-Training Principles for the Patient with Cerebral Palsy

Herbert E. Hipps (1612 Columbus, Waco, Texas), BRIT. J. PHYS. M., 20: 34-39, February 1957

The basic methods and routines of learning for the cerebral palsied child are identical with those of the normal child, except the cerebral palsied child learns with more difficulty.

Psychologists and educators, through countless scientific experiments and years of study, have found effective ways of teaching and training the normal person and have applied these modern and scientific methods of teaching and training, with some necessary modifications, to the cerebral palsied child. This has resulted in a greatly improved teaching-training regimen.

Briefly, the main points in this scientific program of teaching-training the cerebral palsied child are as follows: 1) imitation, 2) trial and error, 3) repetitious efforts, and 4) sometimes by reason and insight. He must be shown how to solve the problem, so that through imitation, or by trial and error, and repetitious efforts he can learn.

Since the over-all schedule for training must be planned with full cognizance of the child's stage of physical maturation, it is essential to keep training problems within this stage.

In maturation stage one, head balance and head balance only is taught. This can be done most effectively by use of the cerebral palsy chair-brace (Hipps 1956) with the head piece attachment.

In maturation stage two, sitting balance is taught, and this too can be done best by the use of the adjustable strap type of cerebral chair-brace. This stage also includes early exploratory gross movements of hands and arms.

In maturation stage three, standing balance, speech, and increased use of hands for purposive movements are taught. In this stage standing tables, leg braces, duck boards (shoes or shoes and braces fixed to broad boards), and standing rails are helpful adjuncts.

In maturation stage four, walking is begun and adeptness in all other activities is increased. Braces, walking rails, and roller-walkers are of great value as adjuncts to the teaching-training program.

While following this master schedule, the following additional desiderata for successful teaching are kept in mind:

1) Teach directly, not indirectly.
2) Do not teach relaxation as an aim itself.
3) Small group or individual training is best.
4) Concentrate on one problem at a time.
5) Teach by constant and prolonged repetition.
6) Do not punish a child for being unable to do some activity given him. Praise him when he tries, or if he shows any improvement.
7) Make training purposive motivation.

These routes of learning and these desiderata of successful teaching and training are scientifically sound and true, and form the underlying framework of modern educational procedures.

Intra-Articular Hydrocortisone in Office Practice

W. R. Petersen (Department of Orthopedic Surgery, Christie Clinic, Champaign, Illinois), ILLINOIS M. J., 111: 25-28, January 1957

Locally injected hydrocortisone is frequently effective in reducing synovial inflammation resulting from a variety of conditions. The procedure may be performed in the physician's office without serious side effects or undue expense.

Hydrocortisone (compound F) is the drug used. By reducing the inflammatory response it decreases the occurrence of fibrosis and adhesions. The author used injections in conjunction with other measures such as immobilization, physical therapy, and medications where necessary. The condition usually improves within 24 to 48 hours often bringing about pain reduction where other treatments have failed.

X-ray examination is essential before prescribing the injection. A description of the technic is given. Injections have been used successfully by the author in the following areas:

1) Shoulder—for bursitis; chronic stiff shoulder; sprains; cuff tears; and arthritis of the acromioclavicular joint. In all cases mobilization exercises are important.
2) Elbow—for olecranon bursitis and "tennis elbow."
3) Wrist—for ganglia; de Quervain's disease; and tenosynovitis of the dorsum of the wrist.
4) Hand—for tenosynovitis (nonsuppurative) and monoarticular arthritis.
5) Hip—for arthritis and trochanteric bursitis.
6) Knee—for trauma; gauty arthritis; and postoperative effusions. Also may be useful in rheumatoid and osteoarthritis.
7) Ankle—for traumatic or degenerative arthritis; bursitis of the Achille's tendon; and painful calcaneal spurs.

Dr. Petersen and his associate have injected over 1,000 joints in the past five years and have found that good results were obtained in 85 per cent of the injections. Outcome is more lasting in patients with osteoarthritis than in those with rheumatoid arthritis. Best results are obtained with injections in the knee and shoulder joints and the poorest (50 per cent or less) in the hip joint, probably because of the difficulty in accurately locating the structures.

The Diagnosis of Cerebral Palsy in Infancy

Karel Bobath and Berta Bobath (Cerebral Palsy Centre, London), ARCH. DIS. CHILDHOOD, 31: 408-414, October 1956

Many workers in the field of cerebral palsy are agreed that an early diagnosis is of great importance and that better and quicker results can be expected from early treatment (before the age of 6 months). 1) The use of the neural mechanism and its patterns can be influenced and directed more easily during the first 6 to 12 months than later on. 2) An infant with cerebral palsy does not usually show appreciable degrees of spasticity. Movements can therefore

be encouraged more easily and early treatment often prevents the development of spasticity. 3) In untreated cases spasticity develops and increases in strength, resulting in contractures and deformities. These can be prevented by early treatment. 4) During the first year of a child's life his mental growth is dependent on an unimpeded development of his motor abilities. If a child is deprived of these abilities he cannot but fail to advance in his mental development.

It is difficult to devise a satisfactory classification of cerebral palsy in older children. It is almost impossible to correctly classify cerebral palsy under 12 months of age, because definite signs such as spasticity or involuntary athetoid movements are not yet seen. This difficulty is further enhanced by the fact that many cases of cerebral palsy are of a mixed character. In spite of these difficulties an early diagnosis should be made, so that treatment may be instituted as soon as possible.

In this article the authors describe a number of tests to assist in the early recognition of cerebral palsy. These tests elicit signs of spacticity while they are still latent. They are based on the presence of abnormal postural reflex activity. The three most important tonic reflexes used for diagnostic purposes are the asymmetrical tonic neck reflex, the tonic labyrinthine reflexes, and the positive supporting reactions. The tests themselves are listed according to the testing position—supine, prone, and the upright posture. Testing for the "Landau" reflex and for the protective extension of the arms are included. All the tests are described in detail, many with photographs. In most cases the reaction of the child with cerebral palsy is compared to the reaction of the normal child for the same test and at the same age.

The Treatment of Osteo-Arthritis: General and Specific

Esther Tuttle (New York City), N. YORK STATE J. M., 57: 913-918, March 1, 1957

Osteoarthritis, a degenerative joint disease, is a chronic, intermittently progressive disease. In its treatment, emphasis must be placed on nutrition, rest, emotional stability, and endocrine balance. Diets, minerals, vitamins, hormones, and analgesics are important factors.

To treat osteoarthritis successfully, there must be a separate plan for each patient. The patient must realize the importance of each therapeutic measure to secure his cooperation and to decrease his apprehension. He must learn that rest is an integral part of the treatment in addition to analgesics, sedatives, and antispasmodics.

Congenital joint defects impose added strain and these deformities may be corrected by medical, physical, or surgical methods. Resistance must be improved by locating and removing the foci of infection. Care must be taken in the diet of the osteoarthritic patient so that he receives the correct amount of protein, fats, minerals, and vitamins. Hormones are used in nutritional therapy. When patients assimilate nutritional substances, particularly proteins, vitamins, and hormones, they may restore function and check the progression of the disease. Calcium is necessary in many biological processes, such as blood coagulation, muscular contractions, and neuromuscular equilibrium. Estrogen tends to inhibit the deposit of cholesterol in selected arteries. Trial use of hydrocortisone is suggested since cortisone will increase only the peripheral blood flow and in osteoarthritis there is a circulatory insufficiency in the joints. For the relief of pain and muscle spasm, careful and guided use of both of these hormones is recommended. Analgesics and antispasmodics are used in addition to hormones and vitamins.

Since osteoarthritis is a joint manifestation of a general circulatory disease, physical measures to increase the local circulation in the joints becomes an important part of therapy. Massage is used when the acute and painful stage is passed, to assist in the flow of blood and lymph, to soften and stretch rigid muscles, tendons, and joint capsules and to help restore the range of motion in the involved joints. Exercise is a definite procedure for maintaining normal range of motion in the joints and for restoring muscle power.

Surgery may be required in later stages but is rarely necessary in osteoarthritic joints which are given proper medical care.

Our Abstractors for June

The following Association members have assisted in the preparation of abstracts for this issue:

Dorothy Brasil	Janice Heidenreich
Dorothy Briggs	Mary E. Sacksteder
Olena Cole	Margot Trimble
Martha Wroe	Jean Cuthbertson

Book Reviews . . . . .

Textbook of Medical Physiology. *By Arthur C. Guyton, M.D., Professor and Chairman of the Department of Physiology and Biophysics, University of Mississippi School of Medicine, Jackson. Cloth; price $13.50. Pp. 1,030; illus. W. B. Saunders Company, Philadelphia, Pa., 1956.*

This is a first edition textbook and was written for the medical student. The author is a recognized teacher and investigator. Combining the experiences of both, he has produced a work which does have advantages over other similar volumes. The organization of the material conforms to that of most physiological texts by being divided according to body systems; however, the bulk of information and experimental methods related to each system is discussed from the point of view of human physiology rather than animal. The fact that in recent years there has been a close association between the workers in the laboratory and those in the clinic justifies this emphasis. The usual method of referring to investigators and their specific contributions is not followed by the author in his presentation of important physiological concepts. Instead, each chapter has its own bibliography of related and recent publications for the inquiring reader. This makes for easy reading and ready comprehension of complex principles, difficult especially for students, both medical as well as those in related fields. In addition, the author has deemphasized less important material by having it set in smaller print.

Those in physical medicine will find the several chapters on nerve and muscle physiology and neurophysiology together with the related bibliography an ideal source for ready reference. This is also true for the discussion on the heart and circulation, mechanics of respiration, and temperature regulation. A chapter on deepsea diving and aviation physiology and a section on nuclear physics and its relationship to the human body will be of value to the interested.

The illustrations, diagrams, and

charts have been carefully selected from the more recent articles and texts on the subject. They are lucid, direct, and self explanatory, and are supplemented by those of the author. This feature along with frequent paragraph headings enables the reader to review a physiological problem with ease and understanding.

This book is an excellent one and is recommended as a reference book to those in physical medicine as well as a textbook to the medical student.

Joint Motion Measurement. *Departments of the Army and Air Force. TM 8-640; AFP 160-14-1 Paper; for official use. Pp. 22; illus. Department of Army and Air Force, Washington, D. C., 1956.*

A well written complete manual of instruction for joint range of motion measurement available on an open market for clinicians and students has long been needed in the fields of physical diagnosis and disability evaluation. Unfortunately, this attractively prepared and easily read technical manual falls short of what is needed and indicated if the goal is to be realized. The purpose of this manual as stated is to "provide uniform information and instruction to personnel" in the Air Force and Army. The material presented may be uniform but it certainly is not adequate.

The Manual contains a brief description of a recommended double armed goniometer and an explanation of the numerical expression of joint motion which will be used. It is followed by a table of range of motion in degrees for each joint in the upper and lower extremities including the joints of the fingers which are dealt with in the text of the manual. Each joint motion is then shown on a diagram with a brief statement on patient position, stationary arm placement, and moving arm placement.

The diagrams are well drawn and the numerical expressions recommended are clearly shown but the instructions given for placement of the instrument are too brief to foster accurate clinical use. Statements such as "parallel to long axis of trunk" with no additional explanations available are incomplete, and further suggestions for points of reference could have been added to assure more uniform, accurate, and consistent placement of the arms of the instrument used. No reference, either general or specific, is made to the inaccuracies which can result from poor recognition of substitutions of motion which so frequently accompany voluntary effort for a restricted or limited motion. As is typical with technical publications from the armed services no bibliography or reference is appended for any of the material which must have been used in preparing this manual. The chart on the degrees of motion available in each joint studied does not indicate where the material was secured or whether these are considered normal ranges of motion or simply numerical expressions of directions of motion to guide the clinician.

The field still must wait for a more complete manual of instruction for the use of instrumentation on the measurement of joint range of motion. This all too brief pamphlet is of limited value.

A Guide for the Study of Exceptional Children. *By Willard Abraham, Professor of Education, Arizona State College, Tempe, Arizona. Paper; price $3.50. Pp. 276. Porter Sargent, Boston, Mass., 1956.*

A Guide for the Study of Exceptional Children is exactly what the title indicates—a guide. The Guide was developed as the result of the author's experience with a group of 86 parents and teachers who enrolled in a workshop to study the exceptional child. Very little content of informational value in regard to exceptional children is included; rather, outlines, methods of organization for study purposes, and bibliographies are the major contributions.

The main body of the volume is devoted to a discusssion of group and workshop procedures, personal information and evaluation materials, suggested guides and specific topics for study of various areas of exceptionality, and a section devoted to "Resources and Aids."

The thing that impressed the reviewer most forcefully is the value of such an approach for persons with an initial background and some experience with a group of exceptional children. Greater value, however, might be derived by the participants if one rather than all areas be emphasized within the restricted time of a single course. Unless sufficient staff were available to guide each group almost continuously (thus actually making it several courses), difficulty in insuring basic understanding and concepts would undoubtedly be encountered. Secondly, group reports would often be of little or no concern and little value to persons interested in other areas. Finally, if used as an introduction to the problems of exceptional children, naive students seldom have sufficient ability and background to be discriminating in selection of materials and developing basic understandings largely working on their own.

Sports Injuries Manual for Trainers and Coaches. *By Donald F. Featherstone, M.C.S.P. Member of Committee for Research into Treatment of Athletic Injuries. Principal of Athlete's Injury Clinic, Southampton; Physiotherapist to Southampton Football Club; Hampshire County Cricket Club; Southampton Speedway Team. Formerly Assistant Physiotherapist to Garston Manor Rehabilitation Centre, Watford, Herts; Physical Medicine Department, Central Middlesex Hospital, London. Foreword by R. Salisbury Woods, M.D., F.R.C.S. Cloth; price $6.00. Pp. 132; illus. Philosophical Library, New York, 1956.*

Written primarily for the nonmedically qualified trainer and coach, this book certainly should prove an asset from the standpoint of its excellent coverage on prevention and treatment of major sports injuries encountered by those responsible for the training and care of athletic participants. The author, an English physiotherapist, questions the wisdom of teaching medical treatment, which will not necessarily be prescribed by a physician, to nonmedical personnel. He makes a strong, well-documented plea, for the need for adequate knowledge, in the absence of a physician, by persons immediately responsible for the welfare of the athlete.

Throughout the manual he stresses the fact that some injuries need medical attention but that the trainer must have enough knowledge to differentiate between the need for first aid technics and immediate medical care. He further recommends that the trainer devote himself to remedial treatment primarily with the use of infrared lamps, massage, and exercise, leaving out treatment with "complicated electrical apparatus."

The book covers basic elementary anatomy and physiology with emphasis on the areas most commonly injured such as the foot, knee joint,

shoulder, wrist, and hand. Disabilities covered include strains, sprains, contusions, ligamentous tears, lacerations, abrasions, and skin infections. The suggested treatment technics seem to be sound and are clearly expressed in simple terminology with adequate illustrations to explain the proposed methods.

Many important and useful pointers are given for prevention of injuries and reinjuries from lack of proper knowledge and precautions. Preparation for participation in any sport by thorough, careful training is stressed. Cleanliness of body and clothes is emphasized with detailed procedures relative to aseptic technics. The trainer is made aware of the importance of keeping careful records and obtaining a medical history. An example of a medical history card is illustrated; it is completed by both the physician and the trainer.

With a limited knowledge of the procedures involved in training athletes, it would seem to this reviewer that the author has succinctly covered the basic information needed by all those responsible for the physical welfare of their charges. The book is well written and is interspersed with sound advice based on established facts, and throughout it is apparent that the author has an understanding of the psychological factors necessary for the morale of the athlete.

If all trainers and coaches underwent a training course such as is proposed in this book and if, when finished with the course, they understood and practiced the fundamentals presented in the care of the injured, they would doubtless become better additions to the medical team and would be a stronger and wiser influence in the care of athletic injuries.

Mental Health Planning for Social Action. *By George S. Stevenson, M.D., ScD., National and International Consultant to National Association for Mental Health, Inc. Consultant, U.S. Public Health Service, Department Health, Education, and Welfare; National Institute of Mental Health; and Veterans Administration. Foreword by Margaret Mead. Cloth; price $6.50. Pp. 358. McGraw-Hill Book Co., Blakiston Division, New York, 1956.*

Any thinking person is concerned with mental health be it consciously or unconsciously; the parent with regard to his child, the doctor his patients, the teacher his students. The therapist treating a cerebral palsied child is confounded by much more than his inability to balance. It is an inescapable part of our existence that every day we are confronted with the demand to help the child affected emotionally as well as physically; or to aid the aging person who no longer feels wanted or needed; or to treat the patient whose imagined wrongs have distorted his personality and caused him to seek revenge on society.

Dr. Stevenson has tackled tasks such as these throughout his career as a professional worker in the field of mental health, as neurologist and psychiatrist on the staff of such leading institutions as Johns Hopkins and New York State Psychiatric Institution, and currently as consultant for a number of national organizations, among them the National Institute for Mental Health. Margaret Mead in her foreword to *Mental Health Planning for Social Action* pays warm tribute to the author for his contributions to the field through the years of pioneering and the struggle for recognition and acceptance. "It is such a distillation of attention which George Stevenson brings in this book to all those who would wish to have him on their committee..." And there are many today throughout the world serving on committees for professional, public, private, and volunteer agencies who must learn to coordinate activities, utilize limited resources of knowledge, experience, and funds to the fullest; who must learn to fight ignorance, indifference, and outright suspicion and hostility to bring ideals to practical realization. It is to these that Dr. Stevenson has directed his forthright text. Each concise definition, each suggestion speaks from the author's wealth of experience, his warmth and depth of understanding, his humor and humility.

The meaning of mental health, its range, and past efforts to help the mentally ill are discussed briefly. The doctor then prescribes criteria for delineating a problem, and gives the methods and equipment that are available for dealing with it. "If advancement of mental health is in hands to which the public looks for leadership and which it supports, careful program planning is an obligation. Planning is not only insurance that the product of effort will coincide with the objectives of the group. It is also insurance that the goal will be approached most quickly and economically."

Part II is a survey of existing agencies concerned with "The Restoration of Mental Health," some primarily and others as a secondary consideration. In chapters devoted to each topic, state and local services are reviewed, so, too, are national services with special attention given veterans' services. Private psychiatric services and general medical practice are touched upon, also provisions for the mentally deficient and the legal offender. The place of the court, the county home and the step from inpatient to outpatient are discussed.

In a short 16 pages of part III, "The Protection of Mental Health," Dr. Stevenson takes the stand that existing agencies should be enabled to do more preventive work. The general practitioner, the visiting nurse, and the public health officer can be particularly effective because of direct contact with the patient.

In part IV, "The Elevation of Mental Health," the author reminds us of the role of home, school, church, and the job in abetting emotional well-being. A more positive approach to mental health is advocated for the military services and in the field of recreation.

The text is well organized and unnecessary detail has been eliminated. Attention is directed to a broad view, as suggested in a subtitle, "how to make the most of our knowledge and facilities for promoting better health." Ample references are given at the end of each chapter for more detailed study. There is an index, and the annotated bibliography of visual aids, which is comprehensive, is categorized by section or chapter heading.

Although concerned primarily with work in the United States, the material will be of value to professional workers in other parts of the world. Dr. Stevenson devotes the final chapter to action on the international level describing the growth of the World Federation for Mental Health and its consultant role to such agencies as WHO and UNESCO, but pointing beyond to work that has yet to be done.

In closing he reiterates the proposition that social action, to be effective, must have facts, understanding, readiness, and authority, but above all it must have mature and responsible citizens working in its behalf.

The reviews here published have been prepared by competent authorities and do not represent the opinions of the American Physical Therapy Association.

(Please turn to page 377 for our book reviewers for June.)

What's New .....

60. Tiny Tot Wheel Chair

This Tiny Tot "Hi" model wheel chair has two accessories for small cerebral palsy patients: front caster extensions which give the chair a "tilted-back" feel of security; and upholstered headwings for additional safety, according to the manufacturer. Also available in the Tiny Tot "Lo" model. Everest & Jennings.

61. Booklet on Rheumatic Fever

If Your Child Has Rheumatic Fever is a new booklet directed especially to parents whose child has rheumatic fever. It provides useful information for reinforcing the physician's advice and discusses the problems of care of young patients during the acute and convalescent phases of the disease and emphasizes the importance of protective measures to prevent return attacks.

Among the questions discussed by the booklet are the significance of heart murmurs, behavior changes in ill children, reasons for selecting home care or hospital care for a particular child, guidance regarding activities during and after the acute phase, and the availability of help from public and voluntary agencies. Available from American Heart Association, 44 East 23 Street, New York 10, N. Y.

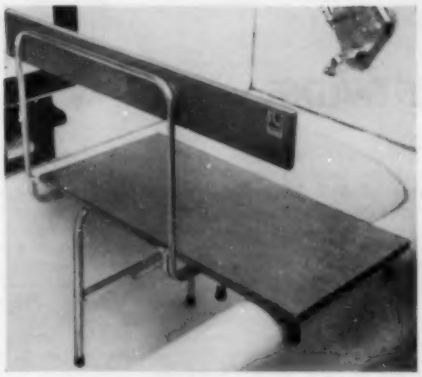
For more information on items write to The Physical Therapy Review, 1790 Broadway, New York 19, N. Y.

New items which may be of interest to physical therapists will be mentioned in these pages each month. The accompanying explanations are made by the manufacturers and have not been investigated by the *Physical Therapy Review*.

62. Wall Chart

A wall chart of conversion factors has been published by Precision Equipment Co. Included are common conversions such as inches to centimeters or watts to H.P. as well as many conversions that are difficult to locate in reference manuals. (Some such examples are atmospheres to Kgs/sq. cm, cm/sec to miles/hr, cu. feet to liters, microns to meters, quintel to lbs., etc.)

Available without charge from Precision Equipment Co., 3716 N. Milwaukee Ave., Chicago 41, Illinois.

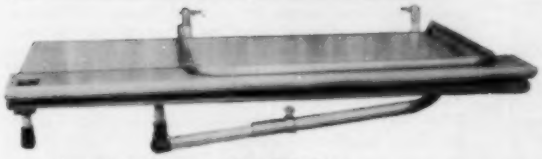


ALL-PURPOSE BATH SEAT

Scientifically designed to help disabled adults to bathe themselves.

Telescoping legs for vertical adjustment.
Adjusts to width of bath tub.
The angled, rubber-cupped legs are designed to provide stability.
The back-rest may be adjusted to either side of seat.
Seat and back-rest are waterproof.

- **Sturdy construction**
- **Lightweight — portable**
- **Compact for easy storage**
- **Aluminum mechanism — anodized fittings**



The adaptable Bath Seat was developed by the O.T. Equipment Shops, New York State Rehabilitation Hospital, West Haverstraw. It has been successfully tested for over five years at this prominent research center.

Available in two models: H 1730
H 1732 UPHOLSTERED SEAT AND BACK REST.

VISIT US AT THE CONFERENCE—BOOTH 23

For additional information, please write to:

W. R. HAUSMANN WOODWORK INC.
1545 INWOOD AVENUE • NEW YORK 52, N. Y. • CY 4-4990

Classified WANT-ADS

PHYSICAL THERAPIST: Wanted for active, well equipped department in 118-bed hospital with expansion program underway. Pleasant surroundings in north suburb of Chicago; modern housing. Recreational facilities and cultural activities available. Good salary, 40-hour week, varied cases treated. Apply to Personnel Director, Highland Park Hospital, 718 Glenview Avenue, Highland Park, Illinois.

WANTED: SUPERVISOR FOR PHYSICAL THERAPY DEPARTMENT, preferably with experience with children. To work with children up to 21 years of age. Graduate of accredited school; good starting salary with regular increases; forty-hour week, paid vacation, sick leave; 100-bed orthopedic hospital; new modern equipment. Write to Miss Anna B. Quinn, R. N., Administrator, Kosair Crippled Children Hospital, 982 Eastern Parkway, Louisville 17, Kentucky.

QUALIFIED new graduate wanted on staff of physical medicine and rehabilitation department of 1,100-bed general hospital. Variety of cases, interesting, challenging work; 37-hour week, 3 weeks' vacation; $3,600 start—$3,912 end of 1st year. Steven Maitinsky, Chief Physical Therapist, Mount Sinai Hospital, 100th Street and Fifth Ave., New York City.

PHYSICAL THERAPIST graduate, experienced; 5-day, 40-hr. week. Salary $350 to $450 depending on qualifications. Administrator, Toledo Society for Crippled Children, 2740 West Central Avenue, Toledo 6, Ohio.

WANTED: QUALIFIED MALE or FEMALE physical therapist for 700-bed hospital. Full PM & R Program. Good salary; vacation and sick leave; retirement plan. Contact Herman J. Bearzy, M.D., Miami Valley Hospital, Dayton, Ohio.

PHYSICAL THERAPIST NEEDED for general hospital. Excellent education and teaching facilities. Good salary. Write to Dr. Hilda B. Case, University Hospitals, 2065 Adelbert Road, Cleveland 6, Ohio.

WANTED: QUALIFIED junior or senior physical therapists, male or female, for rehabilitation center which provides full rehabilitation services for inpatients and outpatients. Desirable working conditions and salary. Refer enquiries to: Administrator, Rehabilitation Center, Inc., 340 East Madison Street, Louisville 2, Kentucky.

IMMEDIATE opening for SUPERVISING PHYSICAL THERAPIST and STAFF PHYSICAL THERAPIST to operate department in new children's 30-bed multi-disability facility. Unit of a medical center which includes 500-bed hospital, medical and nursing schools and progressive research program. Increasing emphasis on rehabilitation training. Unit is completely equipped and air-conditioned, in attractive setting near University. Salary $4,128-$5,160 for supervisor; $3,456-$4,320 for staff. Apply Martha Norris, Coordinator, University of Virginia Children's Rehabilitation Center, Charlottesville, Va.

(*continued on page 422*)

Classified WANT-ADS

POSITIONS AVAILABLE for 1 assistant chief and 1 staff therapist; 300-bed hospital with outpatient service. Located in fine sports area, only 25 miles from Detroit. Modern equipment, substantial salary, good personnel policies. Contact: Marie C. Hickey, Chief Physical Therapist, St. Joseph Mercy Hospital, Pontiac, Michigan.

PHYSICAL THERAPISTS
REGISTERED OR ELIGIBLE

Vacancies in the University Hospital and the Institute of Physical Medicine & Rehabilitation. Good salary and employee benefits, including tuition remission plan. Apply Personnel: 420 East 34 Street, N. Y. C.

NEW YORK UNIVERSITY-BELLEVUE MEDICAL CENTER

IOWA METHODIST HOSPITAL, DES MOINES, IOWA, needs registered physical therapist. Hospital has 400 beds, including 100-bed Raymond Blank Memorial Hospital for Children. Plans under way for construction of 120-bed chronic disease unit. Post-polio cases, in- and outpatient work. Competent professional staff and assistants, excellent working relationships. Apply A. D. Damiani, Personnel Director.

REGISTERED PHYSICAL THERAPIST positions in California; fifteen modern State hospitals. Work with psychiatric, orthopedic, and other physical disabilities of varying age groups. Immediate openings for graduates of approved physical therapy schools who are registered in California. Attractive employee benefits. For detailed information and salary schedules effective July 1, 1957, write Medical Recruitment Unit, California State Personnel Board, 801 Capitol Avenue, Sacramento, California.

BOSTON, MASSACHUSETTS—Private office, orthopedic surgeon: Female therapist needed; salary $4,000 plus, depending on ability; 2 weeks' winter and 2 weeks' summer vacations; start July; Dr. Copel, 483 Beacon Street, Boston.

WANTED: Physical therapist, APTA member, for well established clinic, both in- and outpatients. Attractive salary and working conditions. Many educational and cultural advantages in the vicinity. Write: Personnel, Lahey Clinic, 605 Commonwealth Avenue, Boston, Massachusetts.

WANTED: REGISTERED female physical therapist for new, large department, 360-bed general hospital. Developing full P. M. & R. program. Salary open. Apply Superintendent, Washington Hospital, Washington, Pennsylvania.

PHYSICAL THERAPISTS—Grasslands Hospital. Active Physical Medicine and Rehabiltation service under expert medical direction. Must be eligible for registration in New York State. Starting salary $3,820, increments to $4,570; excellent personnel policies. Contact Personnel Supervisor, Grasslands Hospital, Valhalla, Westchester County, N. Y., LYric 2-8500.

WANTED: PHYSICAL THERAPIST (female) for full or part-time work in orthopedic surgeon's office. Write to Daniel B. Eck, M.D., 144 South Harrison Street, East Orange, New Jersey.

WANTED—Staff Physical Therapist to work in outpatient rehabilitation center. Good pay and working conditions. Write: Gerrit H. Wiegerink, Executive Director, Grand Rapids Rehabilitation League, 941-43 Wealthy S. E., Grand Rapids, Michigan.

PHYSICAL THERAPIST: New monthly range: $380-$420 for 40-hour week. Applicants must have completed approved course in physical therapy. Challenging work in a large department under the direction of a physiatrist. Contact: Wayne County Civil Service, 628 City-County Bldg., Detroit 26, Mich., WO-5-2750, Ext. 261.

WANTED: A qualified physical therapist for a multi-disability facility expanding its services. Opportunity to carry out a dynamic and functional program with inpatients, outpatients, and home-bound. Good personnel policies, pleasant and progressive community. Apply to Director, Easter Seal Rehabilitation Center, 1719 Lacey St., Cape Girardeau, Mo.

QUALIFIED PHYSICAL THERAPIST for staff position in a 320-bed hospital. Completely remodeled and well equipped department, wide variety of cases divided equally between hospital and outpatient. Forty-hour week, paid vacation, sick leave, and holidays; salary open depending upon qualifications and experience. Excellent opportunity in a growing community located in the Valley of the Sun, winter capitol of the Southwest. Apply Personnel Director, Good Samaritan Hospital, Phoenix, Arizona.

CHIEF PHYSICAL THERAPIST, male or female, for well equipped dept. under active direction of Chief of Physical Medicine and Rehabilitation. Forty-hr. week, paid vacation and sick leave. Full maintenance available. Starting salary $5,604 with annual increases to $6,780. Staff therapist also at $4,035 to $4,779. Write Director of Personnel, Baltimore City Hospital, Baltimore 24, Maryland.

THREE STAFF POSITIONS available, Grace-New Haven Community Hospital. Two well equipped departments with a varied case load of in- and outpatients. Also home treatment mobile unit for rheumatoid arthritics. Four-week vacation plus 7 holidays, sick leave and retirement plan. Medical supervision under T. F. Hines, M.D., physiatrist, Dir.; R. V. Jones, M. D., physiatrist, Asst. Dir. Apply to Miss Edith Nyman, Supervisor of Physical Therapy, P. O. Box 1001, New Haven 4, Conn.

Opening for STAFF PHYSICAL THERAPIST in outpatient rehabilitation directed by physiatrist. Wide variety of treatment program. Coordinated physical, occupational, speech-hearing, psychological and vocational services. Excellent personnel policies, up to 3 weeks' vacation, salary $3,900 for new graduate, or depending on experience. Contact R. A. Silvanik, Administrator, The Rehabilitation Center of Summit County, Inc., 326 Locust St., Akron 2, Ohio.

Classified WANT-ADS

PHYSICAL THERAPIST for expanding department in a new 50-bed rehabilitation hospital. Newly equipped department treating polio, orthopedic, and cerebral palsy children. Three weeks' vacation, Blue Cross and a 40-hour work week. Ideal location for advancement. Write: Administrator, Crippled Children's Hospital, 200 Henry Clay Avenue, New Orleans, La.

PHYSICAL THERAPIST: Some experience in cerebral palsy work to set up a Cerebral Palsy Treatment Center in 325-bed general hospital. Also to assist in general physical therapy duties in established department. Basic salary $4,500 a year. Adjustments depend on experience. Write: Miss Mary Reilly, R.N., Trumbull Memorial Hospital, 1350 E. Market St., Warren, Ohio.

QUALIFIED THERAPIST for outpatient rehabilitation center. Salary commensurate with experience. Contact Dr. Eugene Moskowitz, Director, Mobility, 427 Main Street, New Rochelle, New York.

IMMEDIATE OPENING FOR STAFF PHYSICAL THERAPIST (male or female) to assist in well equipped and expanding physical therapy department. Excellent medical supervision. Good salary and liberal personnel policies. Contact Miss Jeanne Burkle, Personnel Director, Butterworth Hospital, Grand Rapids 3, Michigan.

Physical Therapist, STAFF POSITION, male or female. Salary commensurate with experience. Five-day week, liberal vacation, holiday and sick leave. Social Security. Apply Personnel Director, Crotched Mountain Rehabilitation Center for Children, Greenfield, N. H.

QUALIFIED PHYSICAL THERAPIST, male or female, to head department in outpatient rehabilitation unit connected with University Medical Center. Position available for late fall with opening of new building. Salary open, depending upon experience. Contact: Executive Director, Medical Center Rehabilitation Unit, University of North Dakota, Grand Forks, North Dakota.

STAFF PHYSICAL THERAPIST needed in 500-bed general hospital in TVA-lakes region of the South. All types of cases treated. Salary open. Liberal personnel policies. Apply: Miss Sarah C. Hill, R.P.T., Erlanger Hosp., Chattanooga, Tenn.

Physical Therapist for rapidly expanding REHABILITATION PROGRAM. Experienced preferred. Excellent personnel policies. Apply Christine Haukland, Junior Service League Orthopedic Center, 1219 Dunn Avenue, Daytona Beach, Florida.

Position Wanted

PHYSICAL THERAPIST (MALE) N. Y. U. graduate; member APTA, ARPT; registered N. Y. State; 4 years' experience including C.P. Desires employment in the Greater N. Y., N. J. Metropolitan area. Address replies to Box No. 51, care of the Physical Therapy Review, 1790 Broadway, New York 19, N. Y.

PHYSICAL THERAPIST: Wide variety of patient treatment in rapidly expanding department. This southern medical school teaching hospital offers annual paid vacation, holidays, sick leave, modern retirement program and excellent social surroundings. Salary commensurate with ability. Write Edith M. Vail, Physical Therapy Department, North Carolina Baptist Hospital, Bowman Gray School of Medicine, Winston Salem, North Carolina.

IMMEDIATE PLACEMENT for qualified staff physical therapist in 335-bed general hospital, well equipped department serving both in- and outpatients; 40-hour week, paid vacations and sick leave. Write Administrator, Lima Memorial Hospital, Lima, Ohio.

PHYSICAL THERAPIST for 500-bed general hospital wanted for expanding program. Adult cases only. Social Security, good salary, paid vacation, 40-hour week. Inquire Akron General Hospital, Attention Miss Helen Meida, Akron, Ohio.

WANTED: Qualified Physical Therapist to serve as Consultant on a Visiting Nurse Association Staff and to carry a small caseload. Prefer person with experience; 40-hour week, 30-day vacation, Retirement Plan, salary commensurate with experience and qualifications. Write: Marie Winkler, Director, Visiting Nurse Association, 615 North Alabama Street, Indianapolis, Indiana.

POSITION open for Physical Therapist in new physical therapy department of modern, fully accredited hospital. Salary open. Contact: Administrator, Mercy Hospital, 2215 Truxton Ave., Bakersfield, Calif.

(continued on next page)

Classified WANT-ADS

RATES

The rate per insertion is $1.00 per line. Typewrite your advertisement carefully and count 50 characters and spaces per line.

ALL WANT-ADS MUST BE PAID FOR IN ADVANCE. Make checks or money orders payable to the American Physical Therapy Association.

Closing date for copy and cancellations is two months preceding publication date.

Institutions or physical therapists who do not wish their identity known may arrange for Blind Ad Code No. All such want-ads must include the following which will be counted as 2 lines:

Address replies to ..... care of The Physical Therapy Review, 1790 Broadway, New York 19, N. Y.

IMPORTANT

It is understood and agreed that the publisher shall have the right to reject or change the wording of any advertisement which in the opinion of the Editorial Board shall not be in agreement with the ethical standing of this publication.

Classified WANT-ADS

WANTED: STAFF physical therapist—member of the APTA and/or ARPT; for 350-bed fully accredited hospital. Located on beautiful Long Island Sound, one hour from New York City. Apply Personnel Department, Norwalk Hospital, Norwalk, Connecticut.

PHYSICAL THERAPIST: IMMEDIATE opening for person to head department in 200-bed general hospital in metropolitan area of 250,000 on the shores of the Mississippi River. Excellent working conditions, 40-hour week, liberal sick leave and vacation policies, retirement program supplements social security. Salary commensurate with qualifications and experience. Apply Kenneth D. Moburg, Administrator, Lutheran Hospital, Moline, Illinois.

REGISTERED physical therapists urgently needed to work in the GEORGIA Crippled Children's Division's widely expanding program. Employment under merit system. Retirement, plus social security, cumulative annual and sick leave, 5-day week, 11 holidays, insurance, plus other advantages. Must be able to travel. Salary, with increments, dependent upon experience. Write: Personnel Administrator, Georgia Department of Public Health, State Office Building, Atlanta 3, Georgia.

PHYSICAL THERAPIST, staff position with prospect of advancement to chief therapist; 325-bed general hospital. Forty-hr. week, liberal vacation, sick leave, and holiday benefits. Social Security, group participation Blue Cross-Blue Shield. Immediate opening. Salary commensurate with experience. Apply Personnel Director: Mr. Harold G. Golla, Jr., 1521 Gull Road, Kalamazoo, Michigan.

STAFF PHYSICAL THERAPIST for Cerebral Palsy School-Clinic of Atlanta, Inc. Day school program, clinic and outpatient services for 100 children ranging in age from 18 months to 17 years. 5-day work week, public school holidays, 2-weeks' summer vacation, sick leave, salary open. Send qualifications and work summary to Mrs. Harold M. Seymour, Business Administrator, Cerebral Palsy School-Clinic of Atlanta, Inc., 1815 Ponce de Leon Avenue, N. E., Atlanta, Georgia.

PHYSICAL THERAPIST: In Hospital-School for rehabilitation of children with orthopedic handicaps. Complete interesting program. Good salary, merit increases. Annual paid vacation, sick leave, excellent retirement plan. Write to Richard Eddy, Superintendent, Illinois Children's Hospital-School, 2551 N. Clark, Chicago 14, Illinois.

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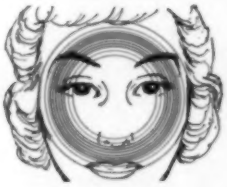

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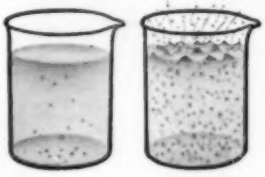

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